

# Utilizing the ISTC ArcIMS Web Site

The GIS staff at the Idaho State Tax Commission (ISTC) has developed a dynamic website to allow users to display spatial information and perform analysis in order to make informed decisions.

The ISTC uses Environmental Systems Research Institute (ESRI) ArcIMS software to provide an Internet Map Service (IMS) allowing users to interact with maps and delete or add layers of data they wish to obtain information from.

Below are instructions on how to navigate through the site as well as how to “zoom in/zoom out”, “pan”, “print a map”, “share a map service” and “save bookmarks”. These services can be found by visiting the URL listed below:

## ***ISTC GIS Home Page***

[http://tax.idaho.gov/propertytax/pt\\_GISmaps.htm](http://tax.idaho.gov/propertytax/pt_GISmaps.htm)

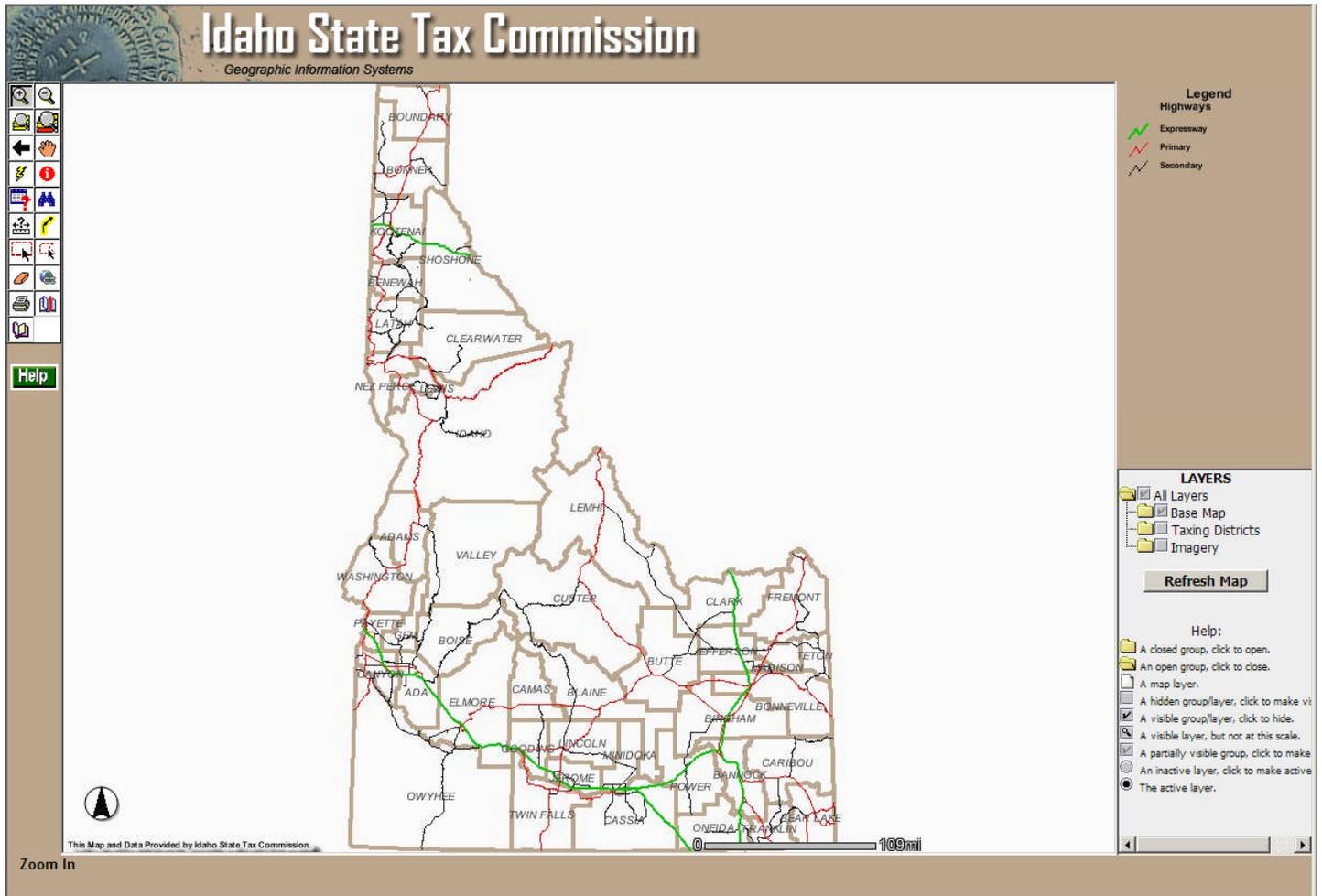


The screenshot shows the State Tax Commission website's GIS section. On the left is a vertical navigation menu with links such as 'Keep Me Updated', 'What's New', 'Introduction', 'Property Tax Relief', 'Publications', 'Tax Policy', 'GIS / Tax Districts', 'Property Tax Codes & Rules', 'Property Appraisal', 'Technical Services', 'ProVal', 'Education', 'FAQs', 'Calendar of Events', 'Links', 'Technical Center', and 'Contact Us'. The main content area features a purple header with the text 'State Tax Commission' and a navigation bar with buttons for 'Home', 'News', 'Contact Us', 'Privacy', 'Site Map', and 'Search'. Below this is a section titled 'Geographic Information Systems' with a small map of Idaho labeled 'GIS'. The text explains that the GIS staff is mandated to map over 1,245 different tax districts. A list of links for downloadable data and maps includes 'Tax District Documents', 'Tax Districts', 'Tax Code Area (TCA)', 'County and Statewide GIS Data', and 'GIS Links'. A section for 'Interactive online map services' lists 'Tax Commission Interactive Map Server', 'Communication Towers', and 'Idaho County Seats'. Finally, a section for 'additional documentation and informational resources' includes 'Education at Tax Commission' and 'GIS Library'.

After accessing the ISTC GIS home page select the following link found under “Interactive online map services:”

● [Tax Commission Interactive Map Server](#)

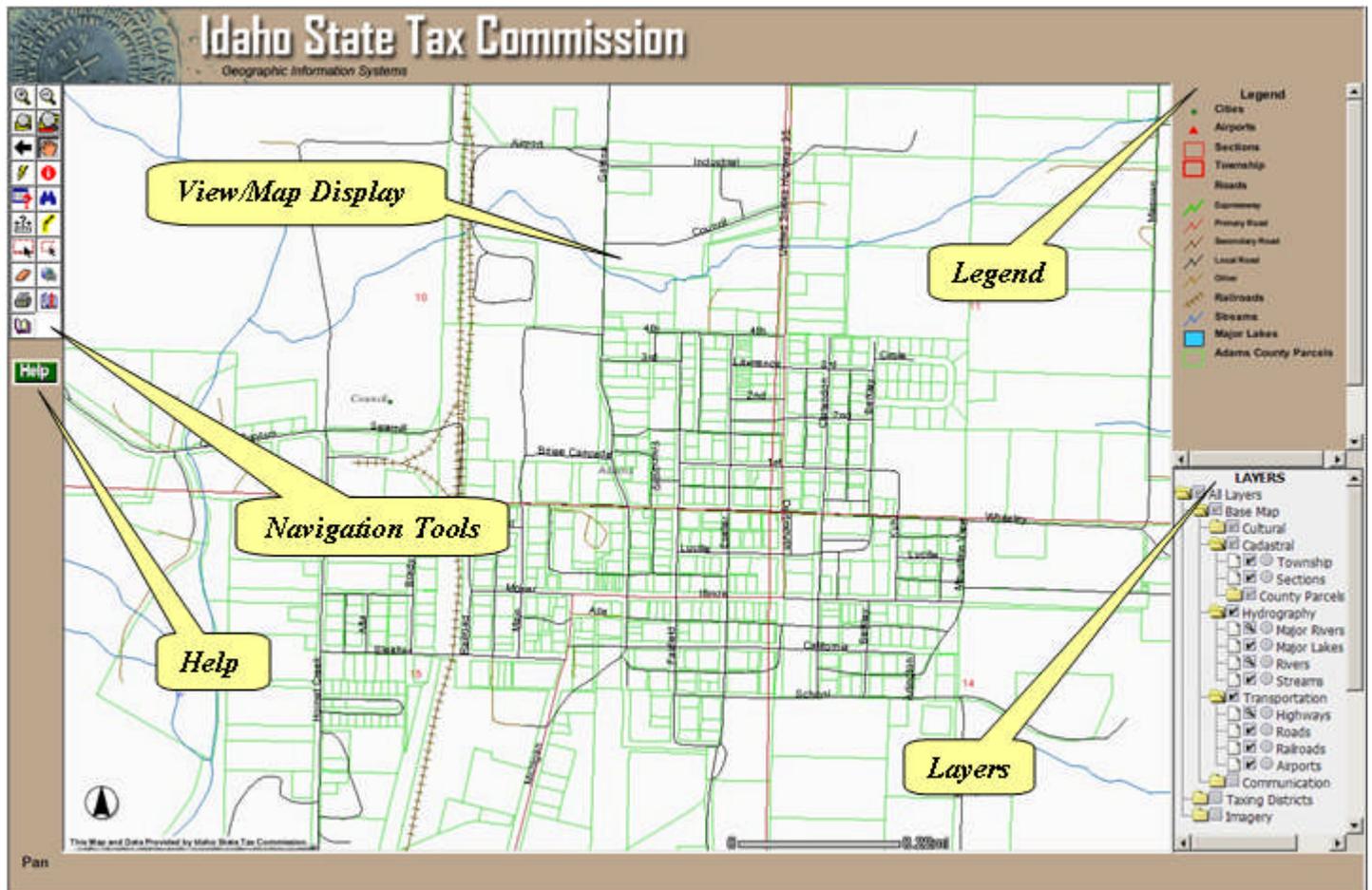
This will launch the ISTC ArcIMS map service and display the following page:



The mapservice interface is comprised of five (5) areas. They are:

- **Navigation Tools** – tools for moving around and querying the map.
- **Help** – documentation on how to use the mapservice.
- **View/Map Display**- area for viewing the map and layers.
- **Legend** – information regarding which layers are displayed in the view.
- **Layers** – geographic data layers for viewing.

## Mapservice Interface

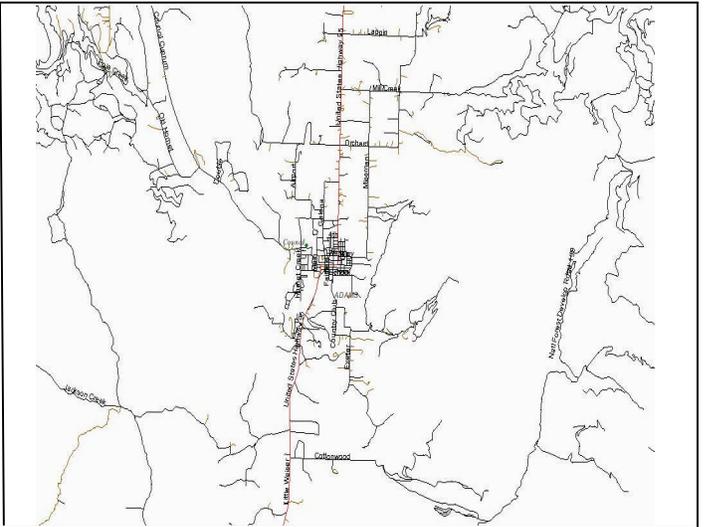
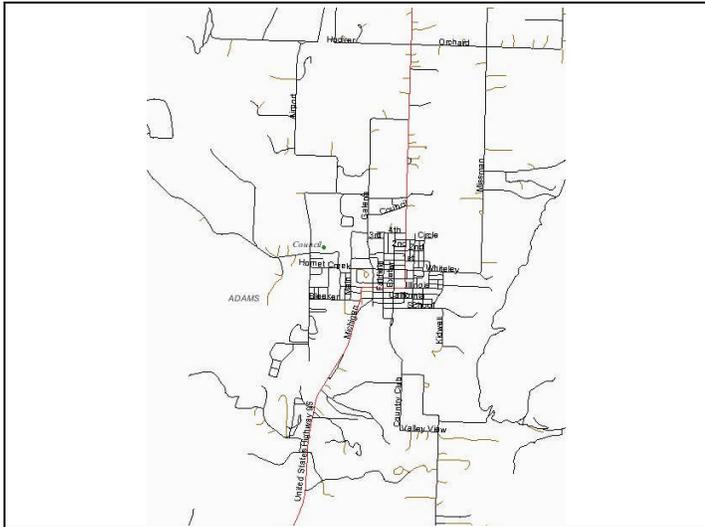




The “**Zoom Out**” button  on the tool bar is used to see a view from farther away showing more of the area of interest. Having found an area of interest, using the “**Zoom Out**” button, click the left mouse button and you will see more of the area you were previously viewing. In this example we will “**Zoom Out**” on the city of Council. See example below:

**Original extent**

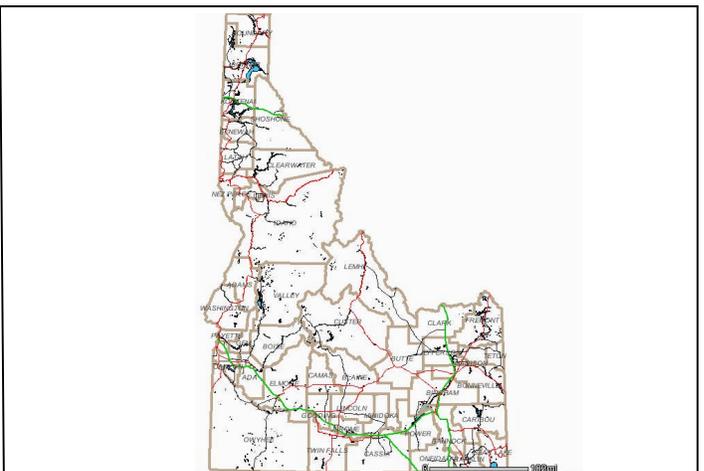
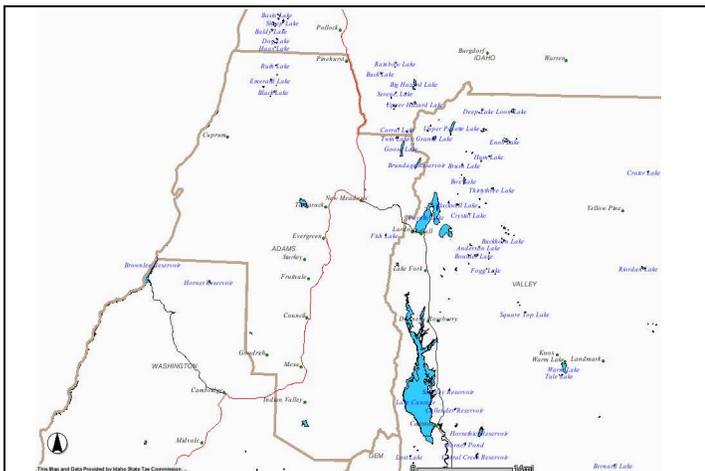
**Zoomed out from the city of Council**



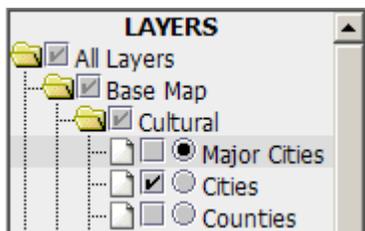
The “**Zoom to Full Extent**” button  on the tool bar is used to return to the full extent of the map once you are finished with an area of interest and would like to move on to another area in the State. Having finished with an area of interest, “click” the “**Zoom to Full Extent**” button, and you will be returned to a picture of the entire State.

**Zoomed in on area of interest**

**Zoomed to Full Extent**



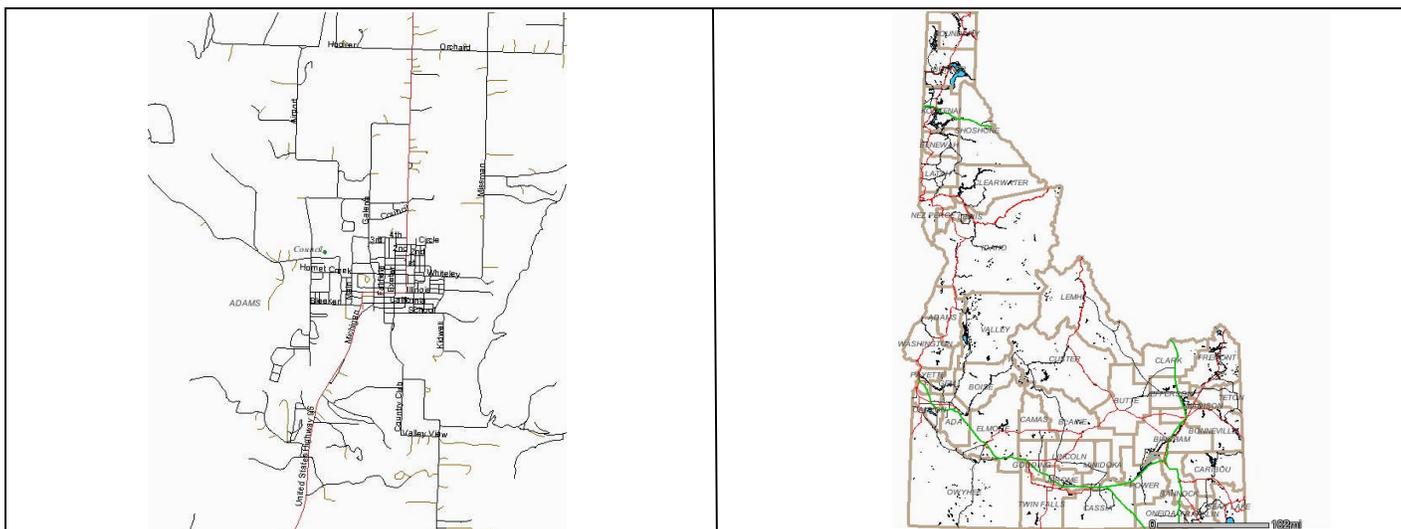
The **“Zoom To Active Layer”** button  on the tool bar is used to limit the map extent to the active layer that is checked in the **“LAYERS”** area of the ArcIMS application. When the user chooses a layer to be active in



the **“LAYERS”** area they will be zoomed to the extent of the selected layer. In the example below the user is zoomed into a specific area. By selecting the **“Cities”** layer in the **“LAYERS”** area the user is zoomed to the extent of the cities layer; in this particular case the cities layer is statewide. See example below:

**Original extent**

**Zoomed to the active “Cities” layer**

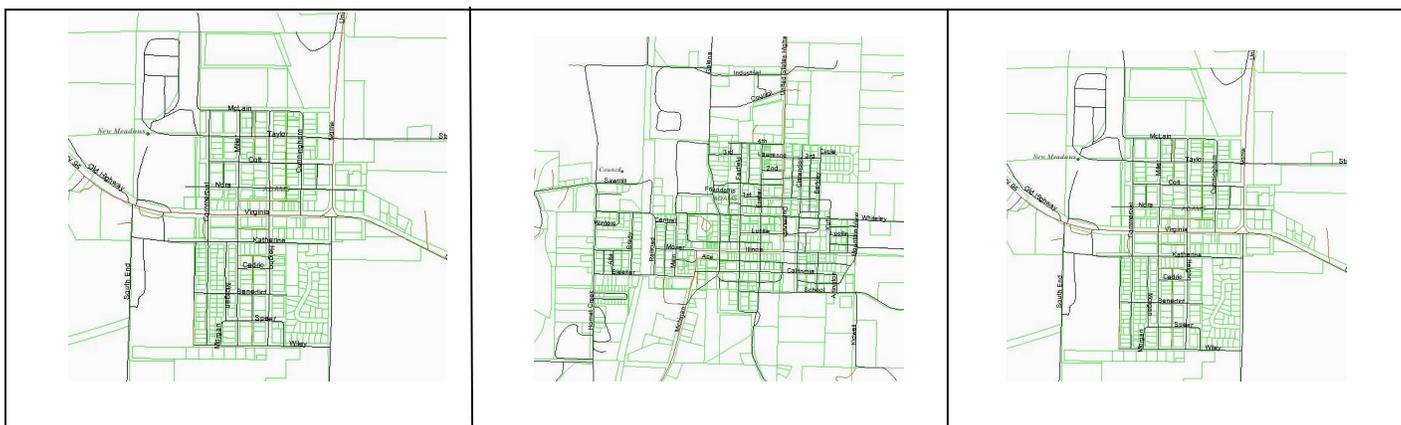


The **“Back to Last Extent”** button  on the tool bar is used to return to the previous map extent. In the example below the user was viewing parcels in the City of New Meadows. The user then zooms in to view parcels of the City of Council. When the user is finished they can then use the **“Back to Last Extent”** button to return to viewing parcels in the City of New Meadows. See example below.

**Zoomed to City of New Meadows**

**Zoomed to City of Council**

**Zoomed “Back to Last Extent”**



The “Pan” button  on the tool bar is used to move around the area of interest. By holding the left mouse button down while moving the mouse, the user is able to “Pan” or move around the area of interest. See example below:

**Original extent**

**“Panning” to view the area to the West**



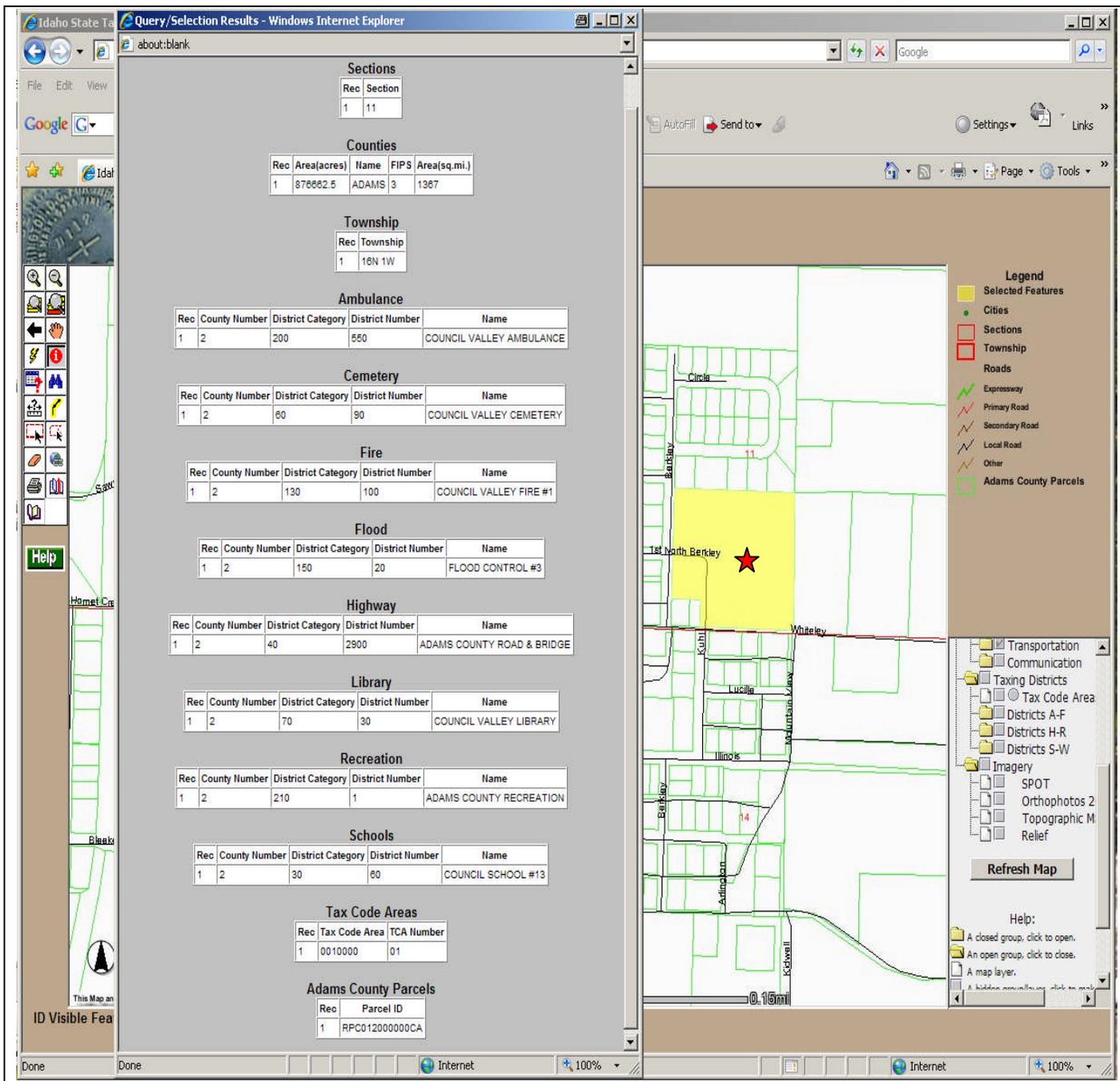
The “Hyperlink” button  on the tool bar is used to link to documents or data related to a specific site, parcel or area you are interested in. The hyperlink can be a photo, document, etc. related to the area you are viewing. In the example below, the facility located on the property is hyperlinked to a photo of the building.

**Hyperlinking a photo of the Capitol Building**

The screenshot shows the Idaho State Tax Commission's Geographic Information Systems (GIS) interface. The main map displays a grid of parcels with a red star marking a specific location. A window titled "http://gis.idaho.gov/website/photos/P0000209s.jpg - Windows Inte..." is open, displaying a photograph of the Idaho State Capitol building. The interface includes a toolbar on the left, a legend on the right, and a layers panel at the bottom right.

The “ID Visible Features” button  allows the user to identify a feature on the map and return specific information about the feature. In the example below, a parcel is “identified” and information about the parcel is returned to the user. *NOTE: Information returned to the user is dependent upon which “Layer” properties are active in the map.*

### Features of the selected parcel are “identified”



The screenshot displays a web application interface for identifying features on a map. The left pane shows the following data tables:

Sections	
Rec	Section
1	11

Counties				
Rec	Area(acres)	Name	FIPS	Area(sq.mi.)
1	876682.5	ADAMS	3	1387

Township	
Rec	Township
1	18N 1W

Ambulance				
Rec	County Number	District Category	District Number	Name
1	2	200	550	COUNCIL VALLEY AMBULANCE

Cemetery				
Rec	County Number	District Category	District Number	Name
1	2	80	90	COUNCIL VALLEY CEMETERY

Fire				
Rec	County Number	District Category	District Number	Name
1	2	130	100	COUNCIL VALLEY FIRE #1

Flood				
Rec	County Number	District Category	District Number	Name
1	2	150	20	FLOOD CONTROL #3

Highway				
Rec	County Number	District Category	District Number	Name
1	2	40	2900	ADAMS COUNTY ROAD & BRIDGE

Library				
Rec	County Number	District Category	District Number	Name
1	2	70	30	COUNCIL VALLEY LIBRARY

Recreation				
Rec	County Number	District Category	District Number	Name
1	2	210	1	ADAMS COUNTY RECREATION

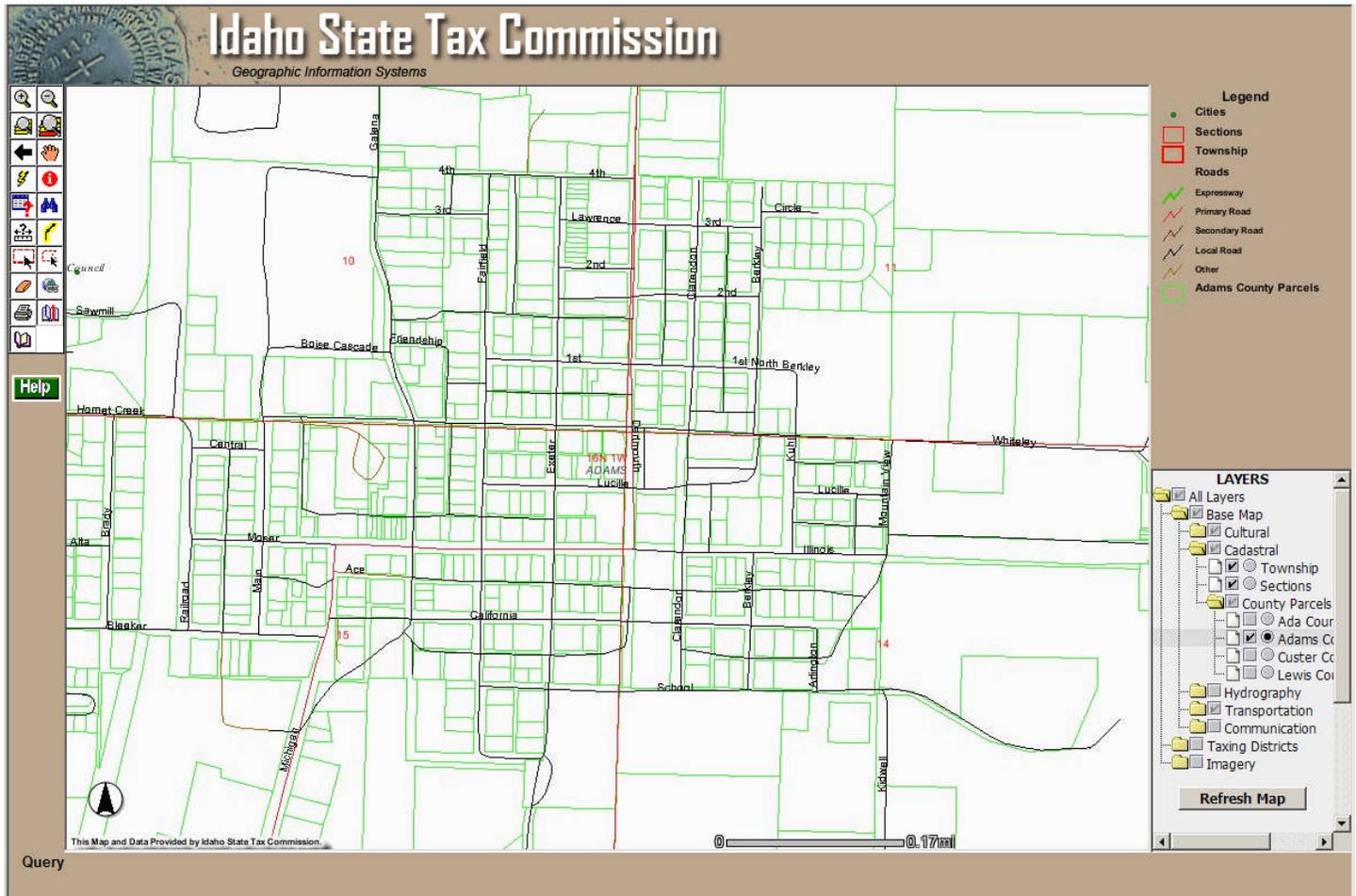
Schools				
Rec	County Number	District Category	District Number	Name
1	2	30	80	COUNCIL SCHOOL #13

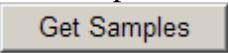
Tax Code Areas		
Rec	Tax Code Area	TCA Number
1	0010000	01

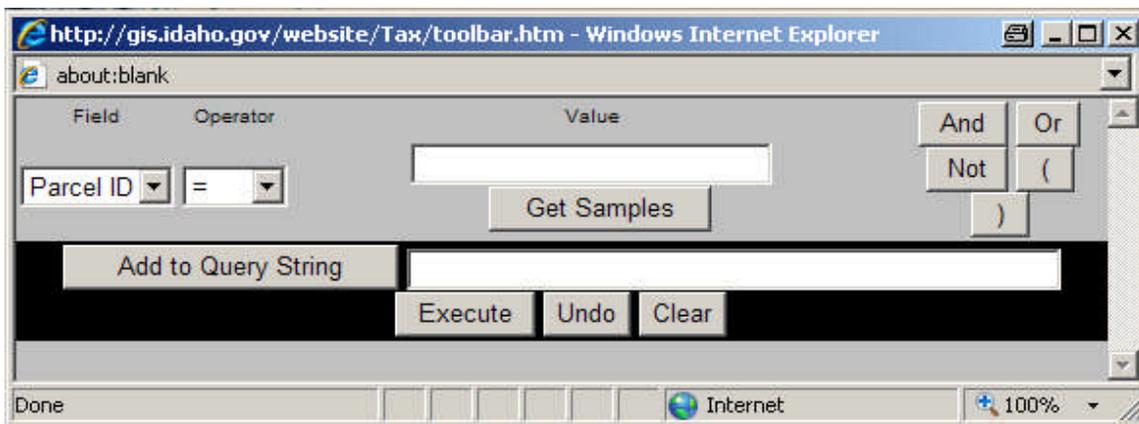
Adams County Parcels	
Rec	Parcel ID
1	RPC012000000CA

The right pane shows a legend and a layer list. The legend includes Selected Features (yellow square), Cities (green dot), Sections (red square), Township (red square), Roads (green line), Expressway (red line), Primary Road (red line), Secondary Road (red line), Local Road (red line), Other (red line), and Adams County Parcels (green outline). The layer list includes Transportation, Communication, Taxing Districts, Tax Code Area, Districts A-F, Districts H-R, Districts S-W, Imagery, SPOT, Orthophotos 2, and Topographic M Relief. A "Refresh Map" button is also present.

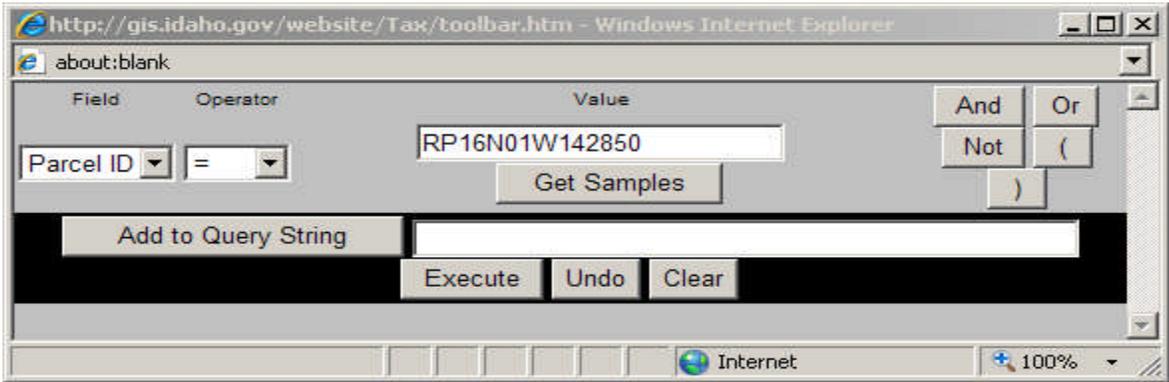
The “**Query**” button  allows the user to perform a query to find a specific feature on the map. *NOTE: Information returned to the user is dependent upon which “Layer” properties are **active** in the map. In this case the Adams County layer is turned on and the radio button is activated.*



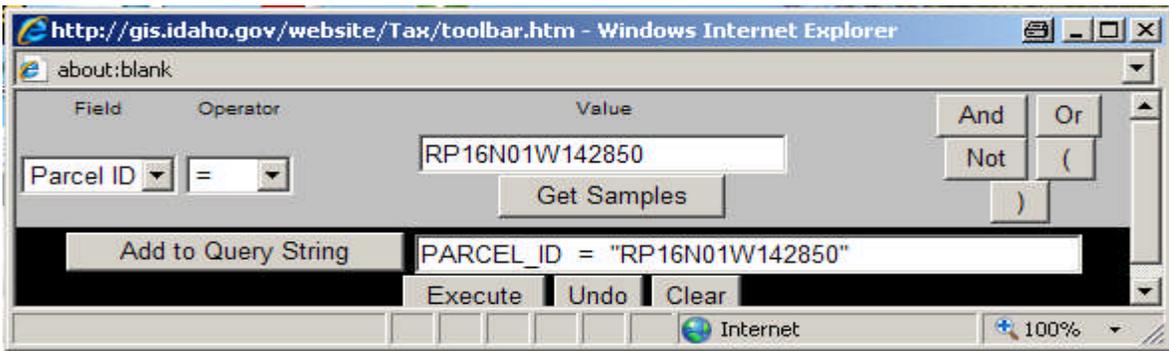
In this example we’ll use the “**Query**” button  to find parcel “RP16N01W142850” on the map. When the dialog box opens up we’ll need to enter the parcel number in the “Value” field. This can be done by typing the number in the box or by using the  button to return a choice of parcel numbers.



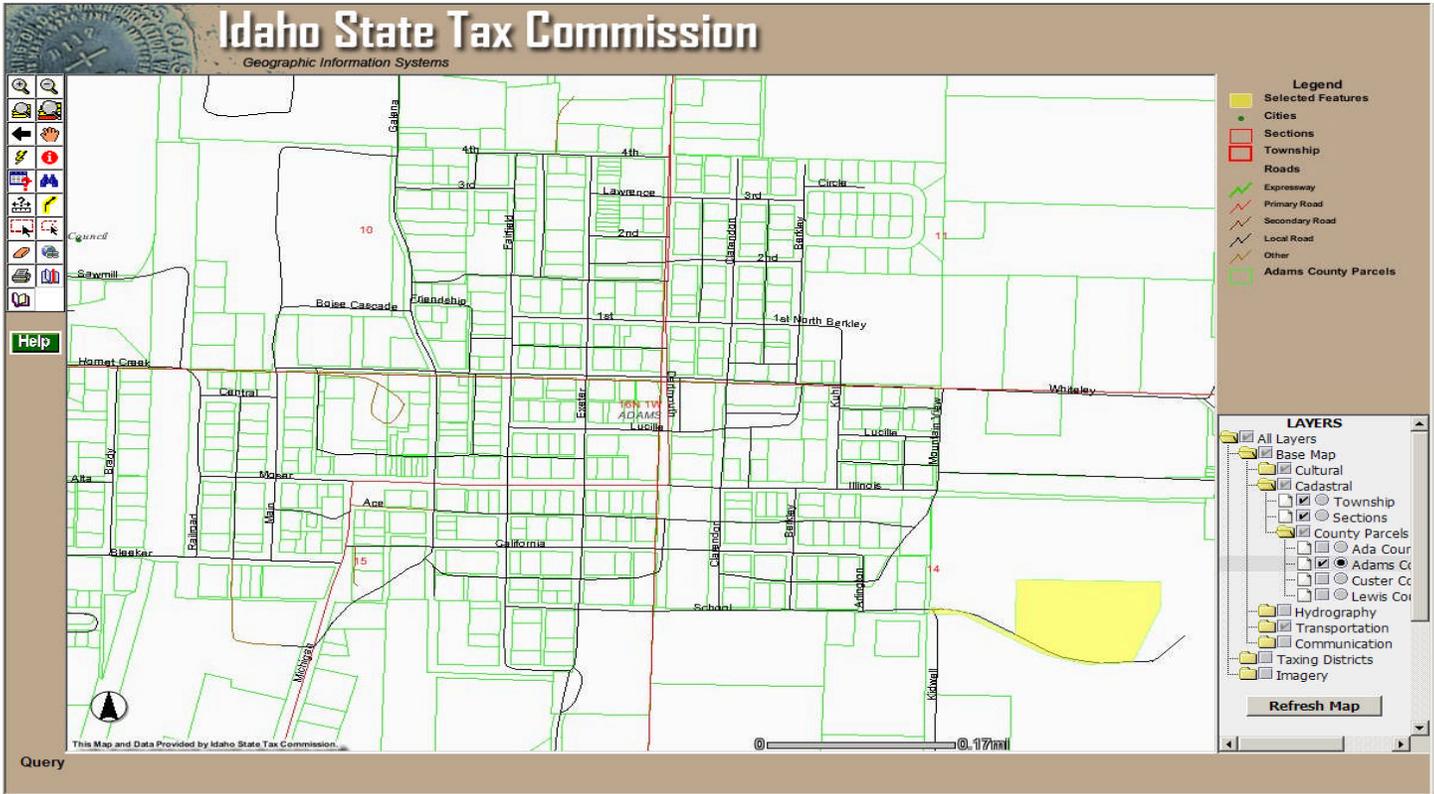
Here we enter the parcel number “RP16N01W142850” into the “Value” field.



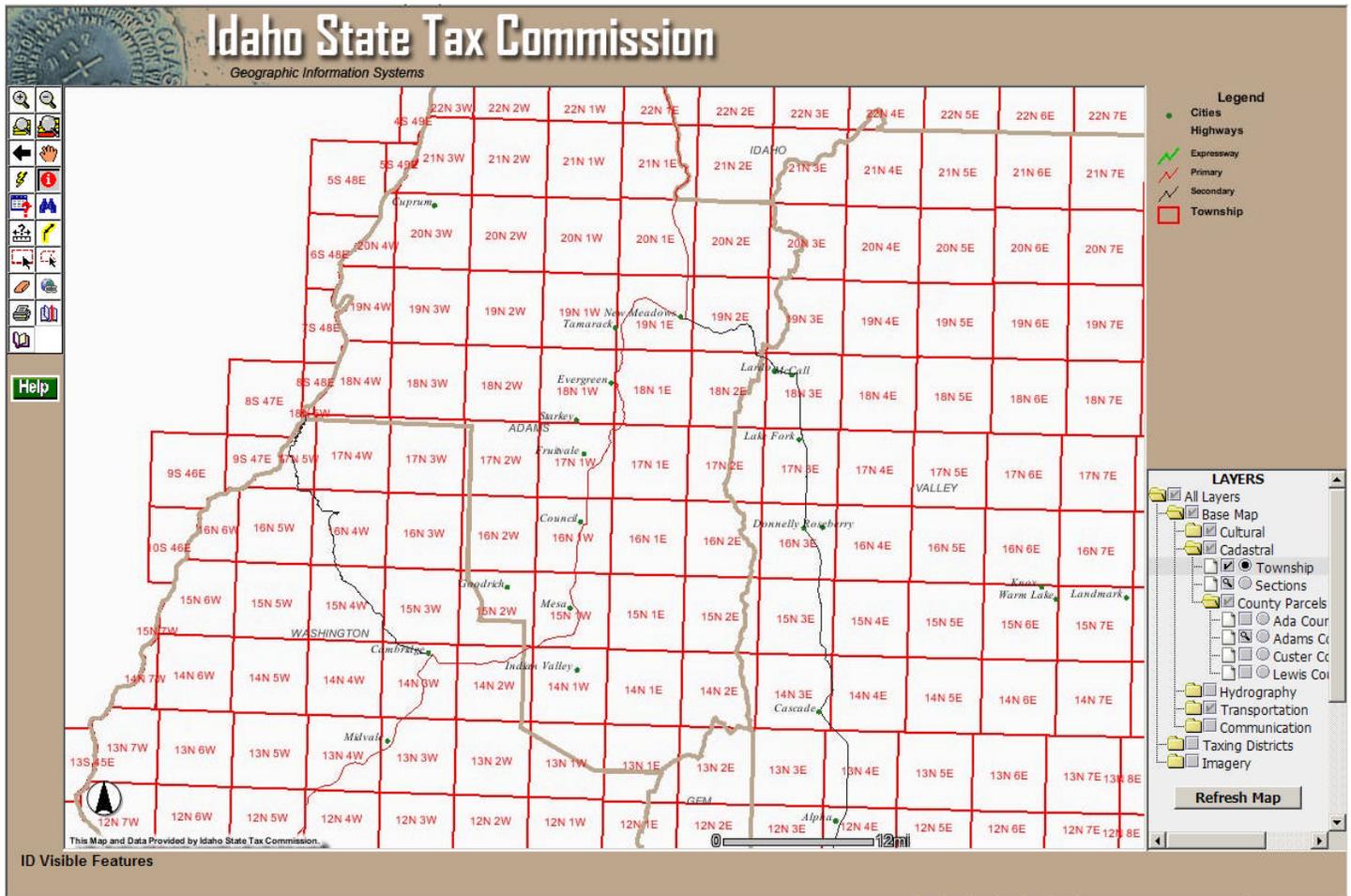
Next click on the **Add to Query String** button to complete the query string. Then click on the **Execute** button to perform the query.



The identified parcel is then searched for and highlighted on the map. See example below; (the selected parcel is highlighted yellow).



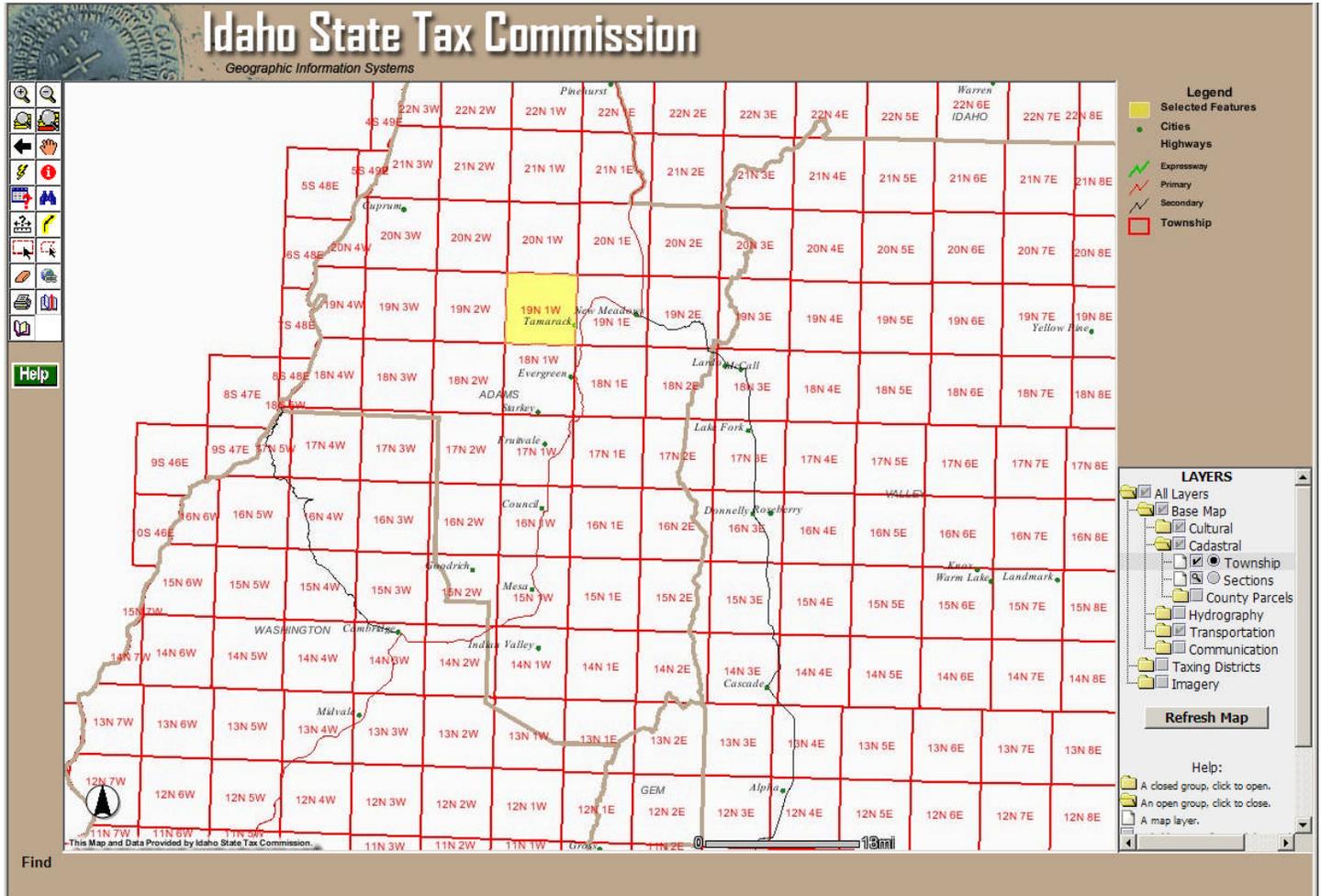
The “**Find**” button  allows the user to locate areas on the map. *NOTE: Information returned to the user is dependent upon which “Layer” properties are **active** in the map. Notice the Township layer is turned on and the radio button is activated.* In this example we’ll locate Township and Range 19N 1W.



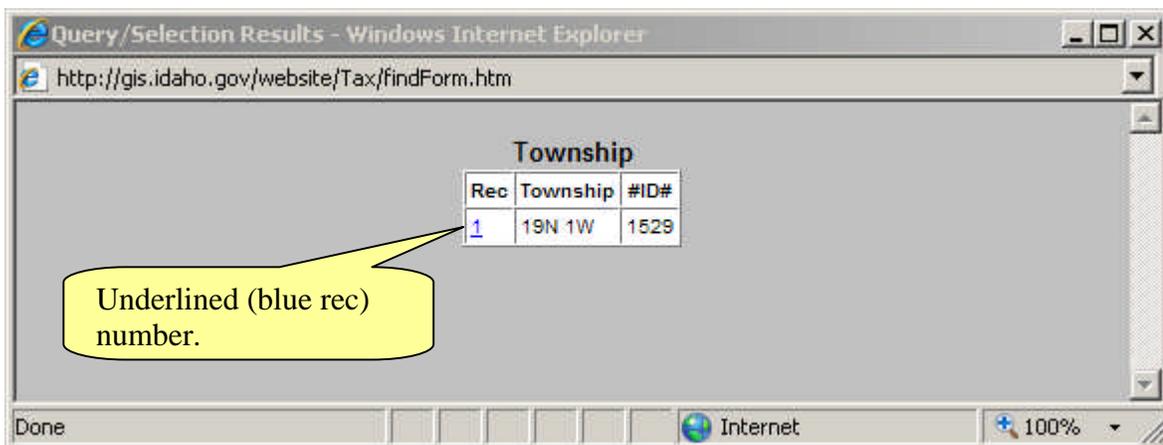
When the dialog box appears in the “Enter String to Find in Township” box enter the Township and Range you are trying to locate. In this example we use 19N 1W. The user then clicks the  button.



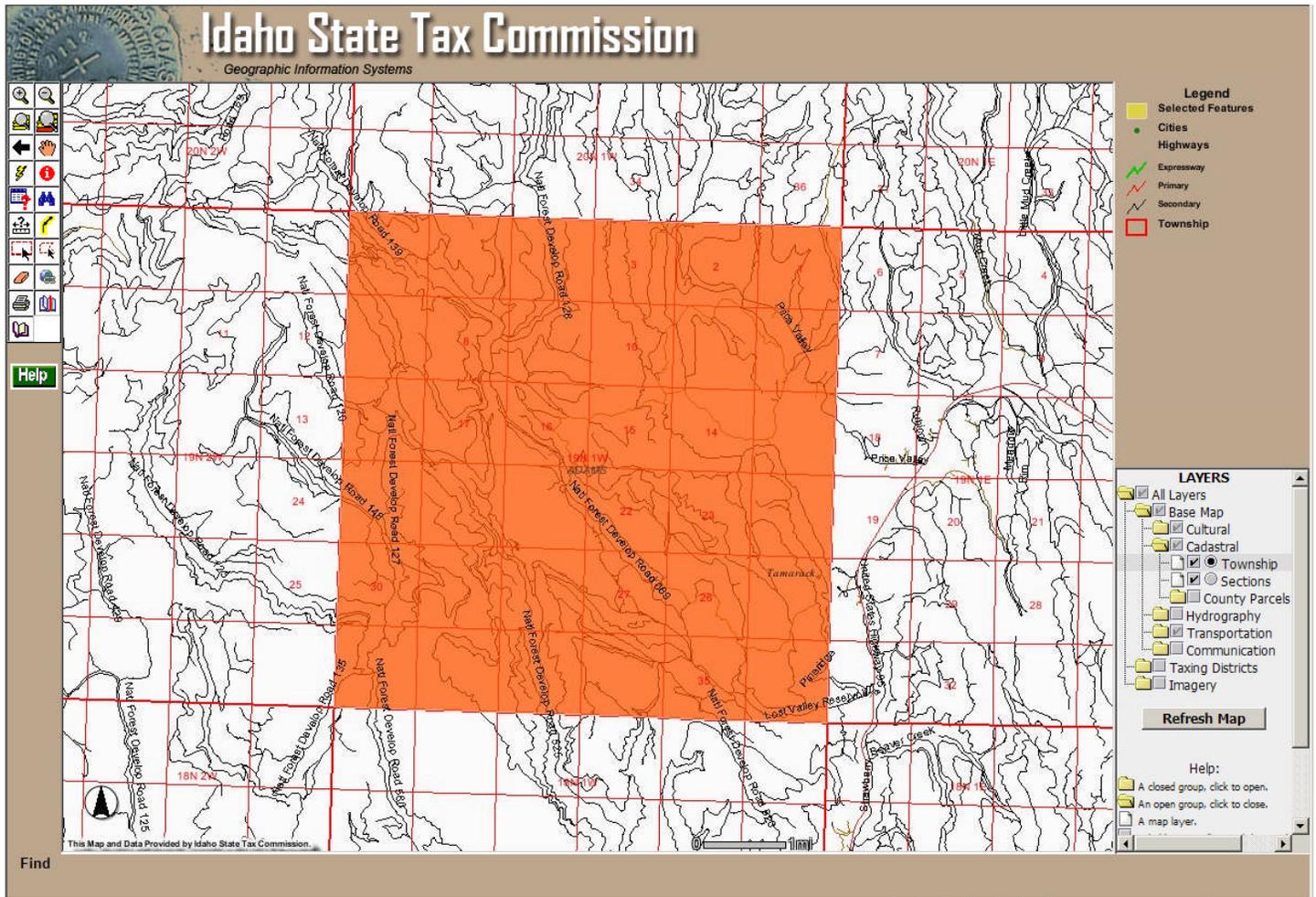
The area of 19N 1W is then highlighted as yellow on the map. See below.



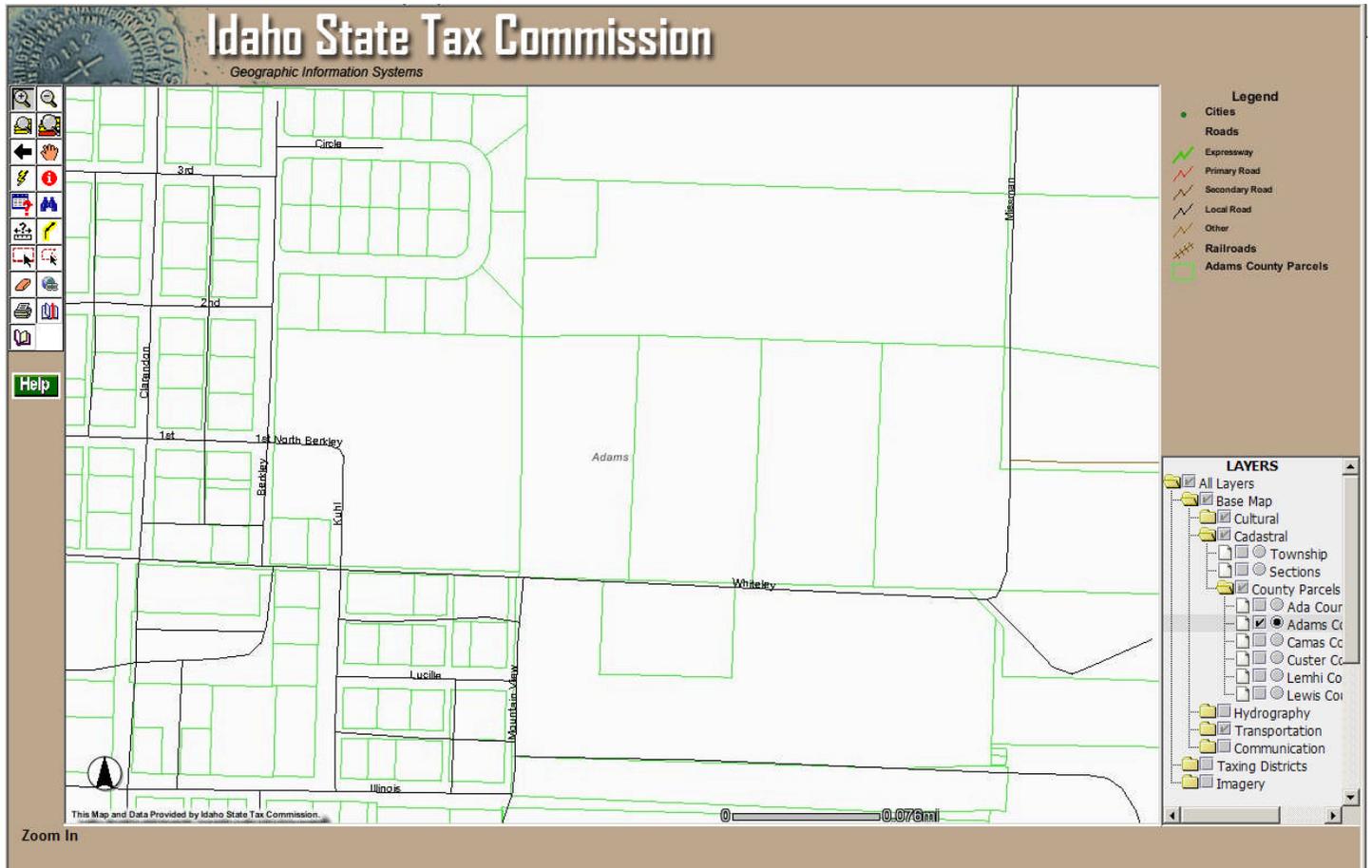
Also the dialog displays a “Rec” number. In this case the “Rec” number is 1. By clicking on the blue underlined “Rec” number 1 the user is then zoomed to a more detailed map extent of 19N 1W. See examples below:



# Detail of 19N 1W



The “**Measure**” button  allows the user to measure distances on the map. *NOTE: Information returned to the user is dependent upon which “Layer” properties are **active** in the map. Notice the Adams County Parcels layer is turned on and the radio button is activated.* In this example we’ll measure the perimeter of a parcel and return an approximate acreage.



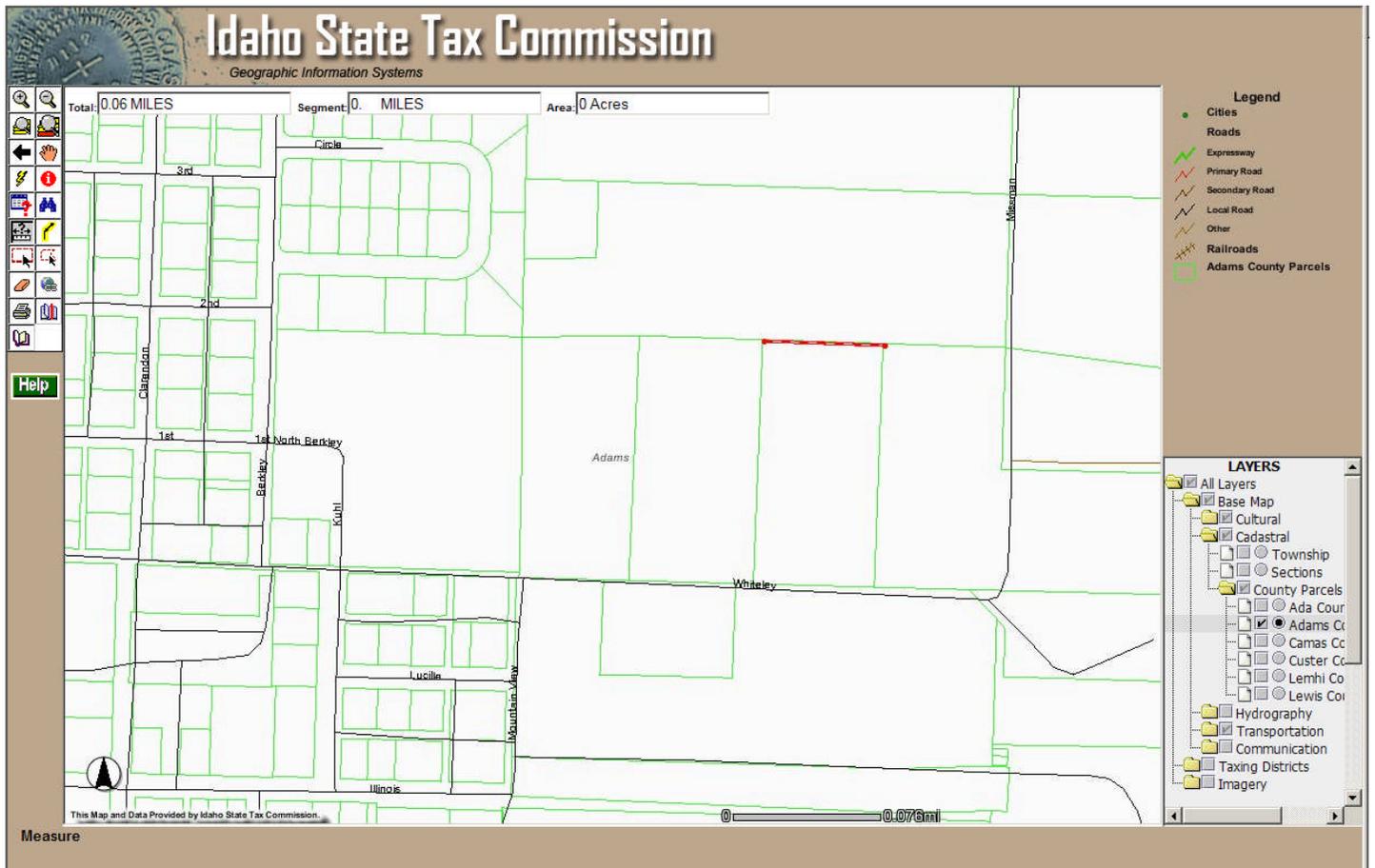
When the “**Measure**” button  is activated you’ll notice there are three boxes that appear at the top of the view display. They appear as the following:

Total:  Segment:  Area:

These are dynamic boxes that change as the user navigates around a parcel. For example the “Total” will give the user the total distance traveled; the “Segment” will give the user the length of a segment traveled and the “Area” will give the user an approximate acreage of the polygon traversed. The following examples will show how these values change as the user traverses around a parcel.

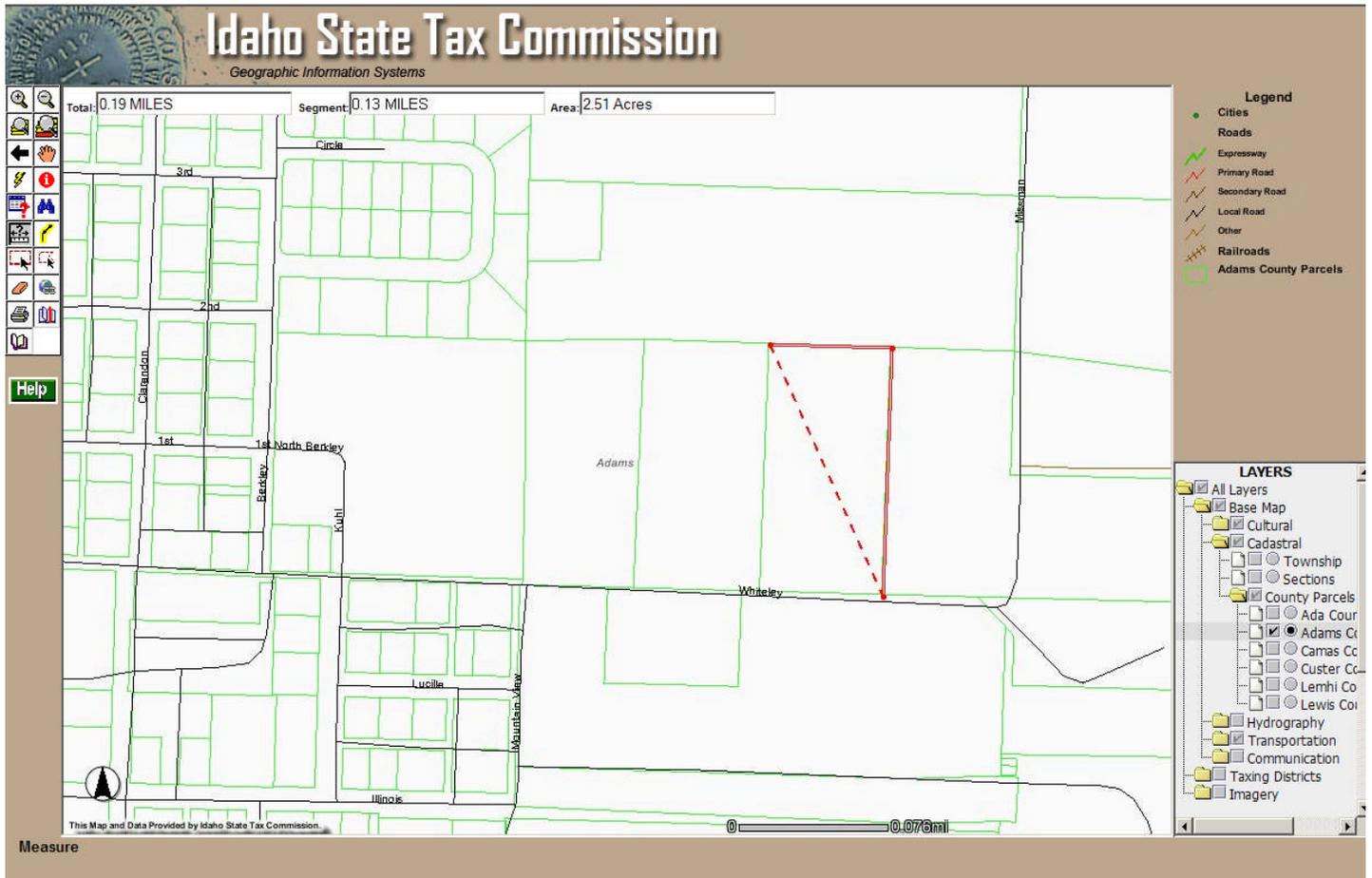
The first example (A) shows the segment being traversed and the “Total” length is 0.06 miles.

Example (A)



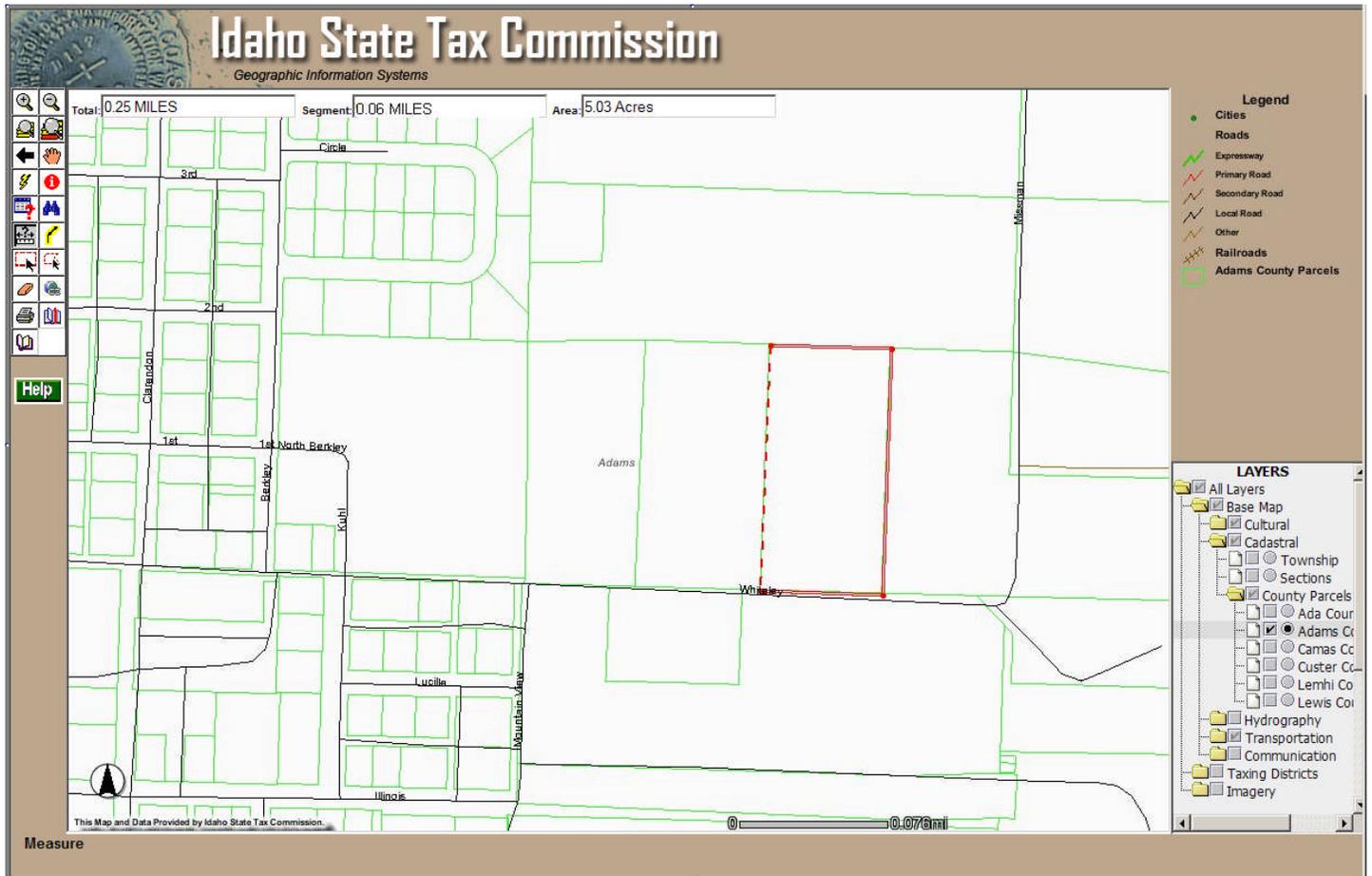
In example (B) we have traversed the second leg of the parcel and the value of the “Total” distance traversed is displayed as well as the length of the second “Segment”. In example (B) we have a “Total” distance of 0.19 miles and a “Segment” length of 0.13 for the second leg of the parcel. The “Area” is shown as half the parcel acreage of 2.51 acres.

### Example B



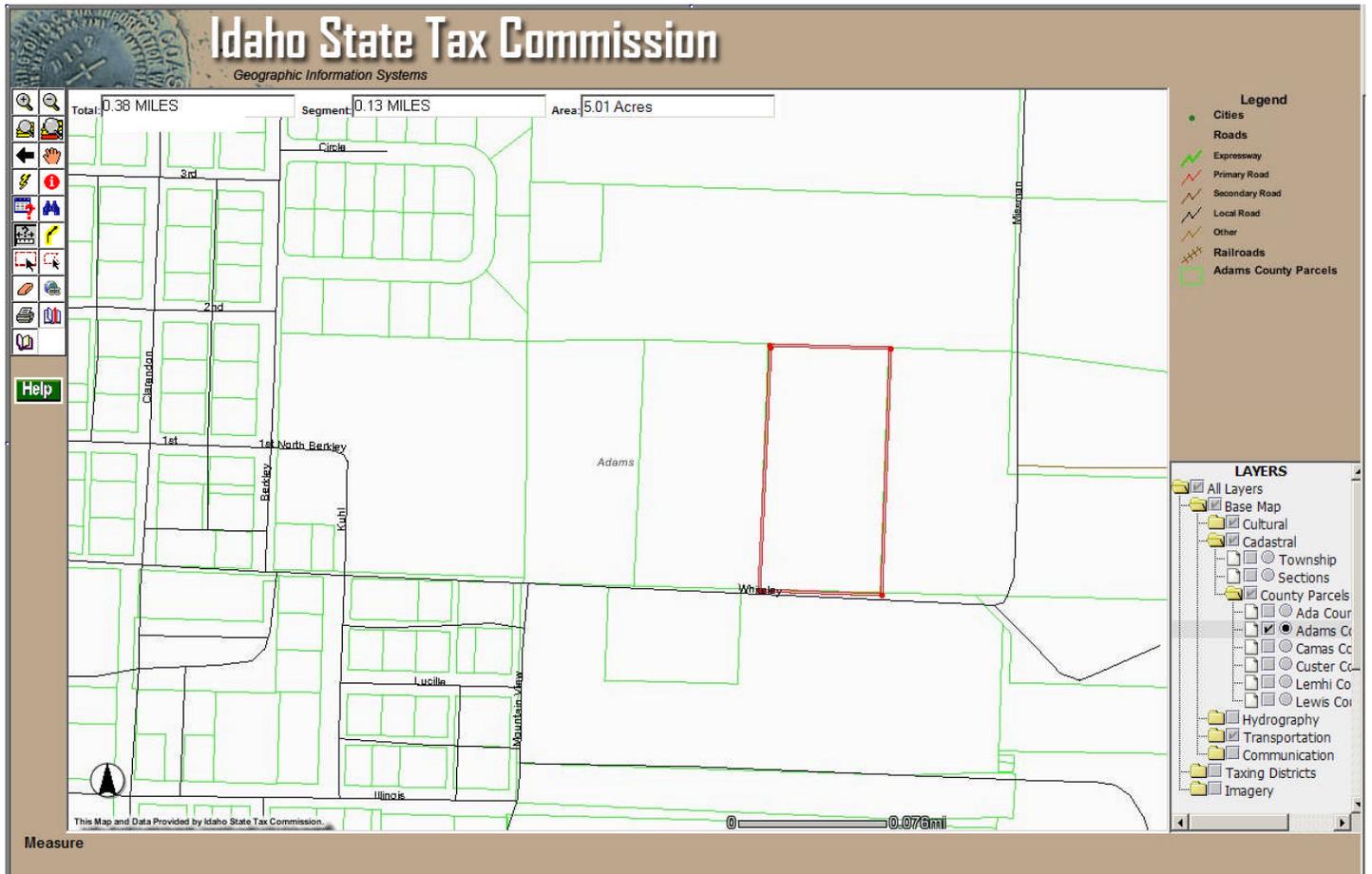
In example (C) we have traversed the third leg of the parcel and the value of the “Total” distance traversed is displayed as well as the length of the third “Segment”. In example (B) we have a “Total” distance of 0.25 miles and a “Segment” length of 0.06 for the third leg of the parcel. The “Area” is shown as calculating the parcel acreage back to the point of beginning as 5.03 acres.

### Example C



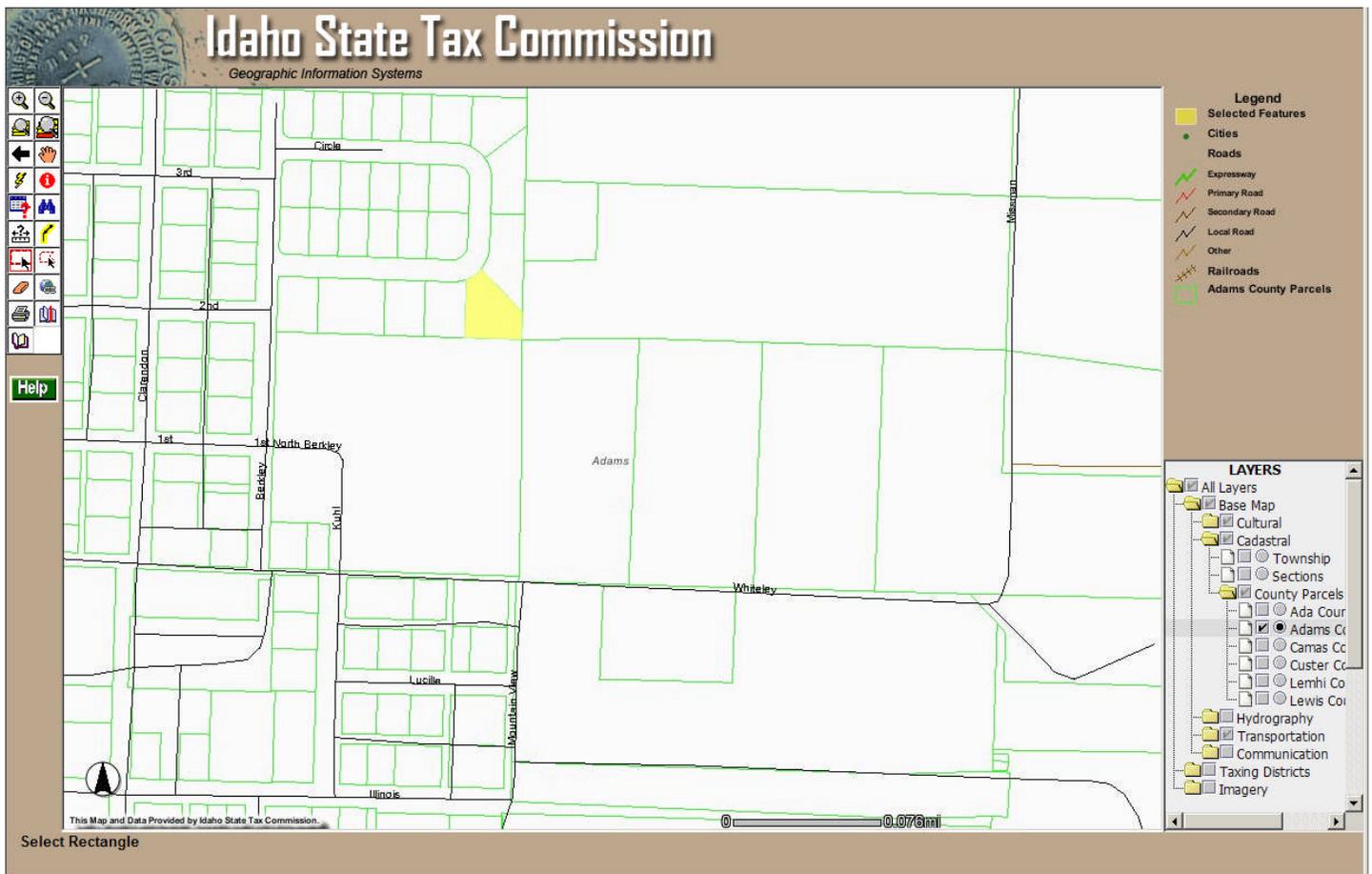
In example (D) we have traversed the fourth and last leg of the parcel and the value of the “Total” distance traversed is displayed as well as the length of the fourth “Segment”. In example (B) we have a “Total” distance of 0.38 miles and a “Segment” length of 0.13 for the fourth leg of the parcel. The “Area” is shown as calculating the parcel acreage with a closure back to the point of beginning as 5.01 acres.

### Example D



The “**Buffer**” button  allows the user to create a buffer for a certain parcel and display parcels within a certain buffer range on the map. *NOTE: Information returned to the user is dependent upon which “Layer” properties are **active** in the map. Notice the Adams County Parcels layer is turned on and the radio button is activated.* In this example the user has identified a parcel and using a buffer will return a list of parcel numbers for the buffered parcels.

In the examples to follow the user must first select a parcel from which to generate the buffer. This is accomplished by using either the “**Select by Rectangle**”  or the “**Select by Line/Polygon**” the  buttons. See below:



From the selected parcel (yellow highlight) the user will create a buffer of 1/8 mile or 660 feet. Now that the user has selected the parcel they will use the “**Buffer**” button  and enter the values in the appropriate boxes.

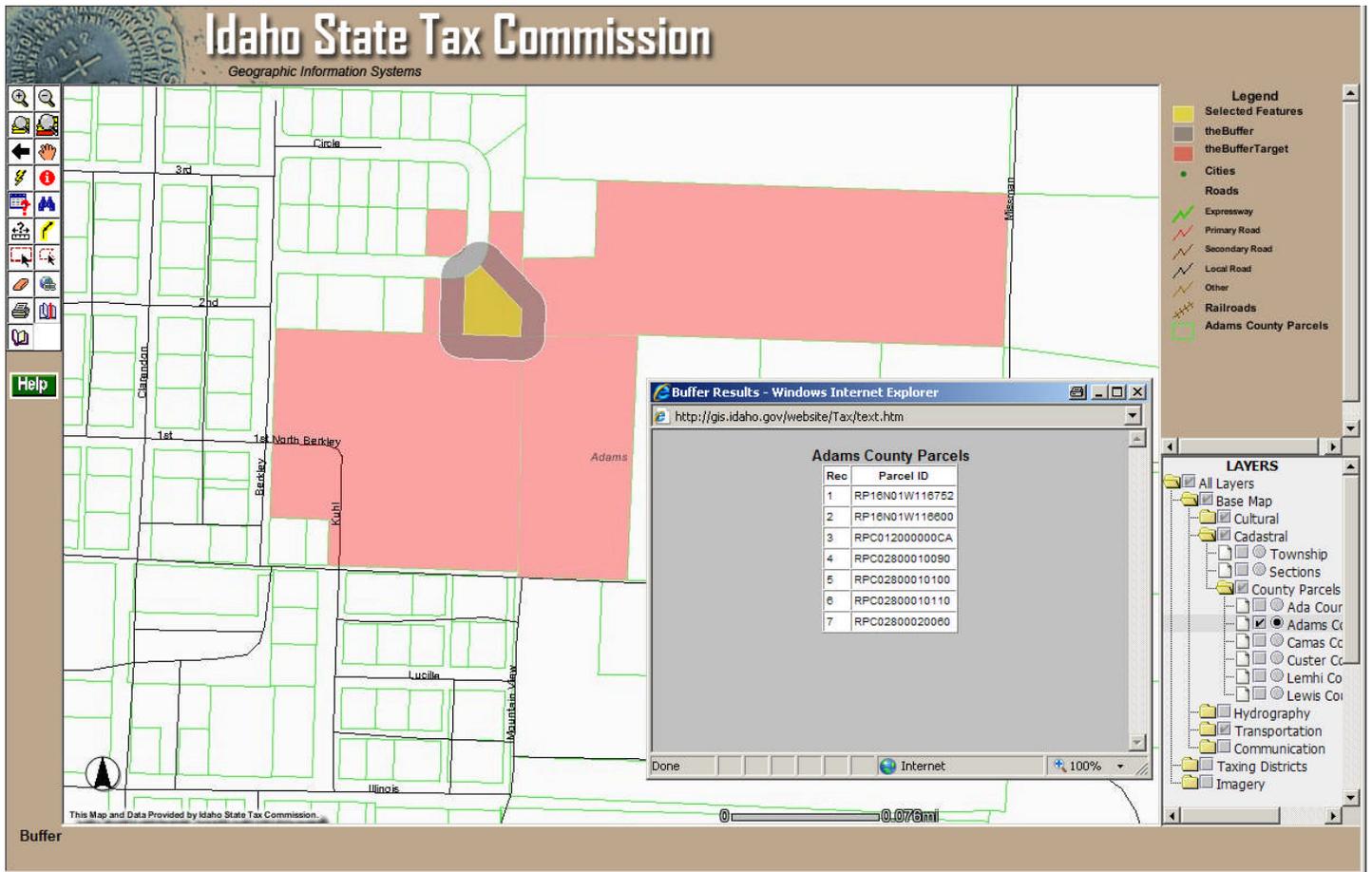
First the user must choose the layer which contains the parcel information. In this example the user chooses the “Adams County Parcels” layer. The user must then enter a distance for the buffer. The user enters .0125 miles. This is 1/8 mile or 660 feet. The user also checks the box “Display Attributes”. This will create the list of parcels that lie within 660 feet of the selected parcel. See **Example E** on following page.

# Example E

The screenshot displays the Idaho State Tax Commission's Geographic Information Systems (GIS) interface. At the top, the title "Idaho State Tax Commission" is prominently displayed, with "Geographic Information Systems" written below it. The main map area shows a grid of parcels outlined in green, with one parcel highlighted in yellow. A toolbar on the left side contains various navigation and tool icons, including a "Help" button. A "Legend" on the right side lists map features: Selected Features (yellow square), Cities (green dot), Roads (various line styles for Expressway, Primary Road, Secondary Road, Local Road, and Other), and Railroads (cross-hatched line). A "LAYERS" panel on the right shows a tree view of map layers, including Township, Sections, County Parcels, and various county-specific layers like Ada Cour, Adams Co, Camas Co, Custer Co, Lemhi Co, and Lewis Co. A "Buffer" dialog box is open in the center, showing "Adams County Parcels" selected in the dropdown menu, with a distance of ".0125" MILES. The dialog includes a "Create Buffer" button and a checked "Display Attributes" option. A browser window in the background shows the URL "http://gis.idaho.gov/website/Tax/text.htm". At the bottom left, a scale bar indicates "0.078mi".

In Example (F) the map will also display the buffer zone in blue/grey, as well as the parcels affected by the buffer zone in red. A list of parcels touched by the buffer zone is also returned to the user.

### Example F

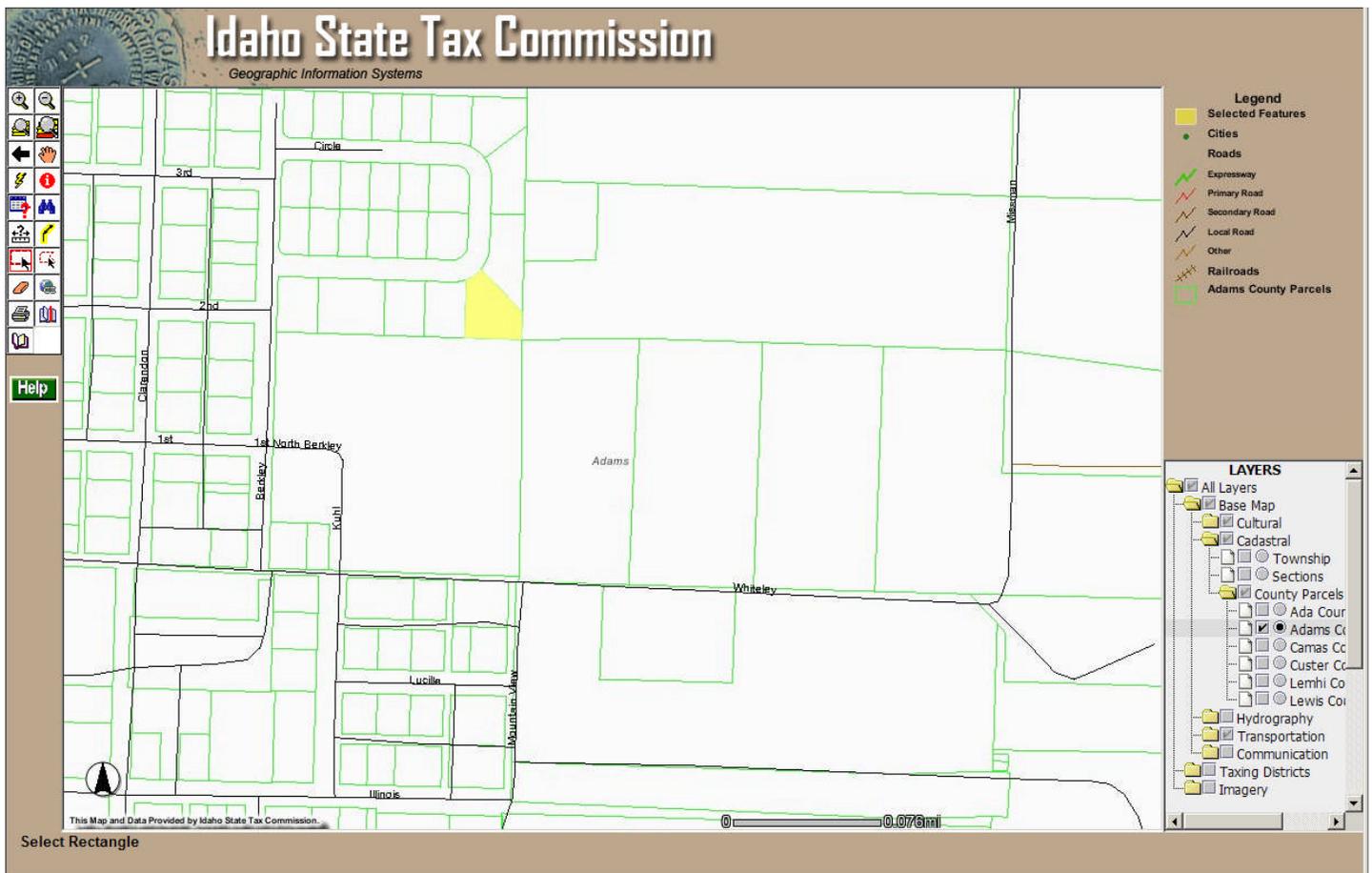


This type of application can work very well for notifying the public within a certain distance of a subject parcel.

## Selection Tools

The “**Select by Rectangle**”  or the “**Select by Line/Polygon**” the  buttons are used for selecting certain elements in the map. An example of how these tools are used is shown below. The “selected” parcel is highlighted in yellow.

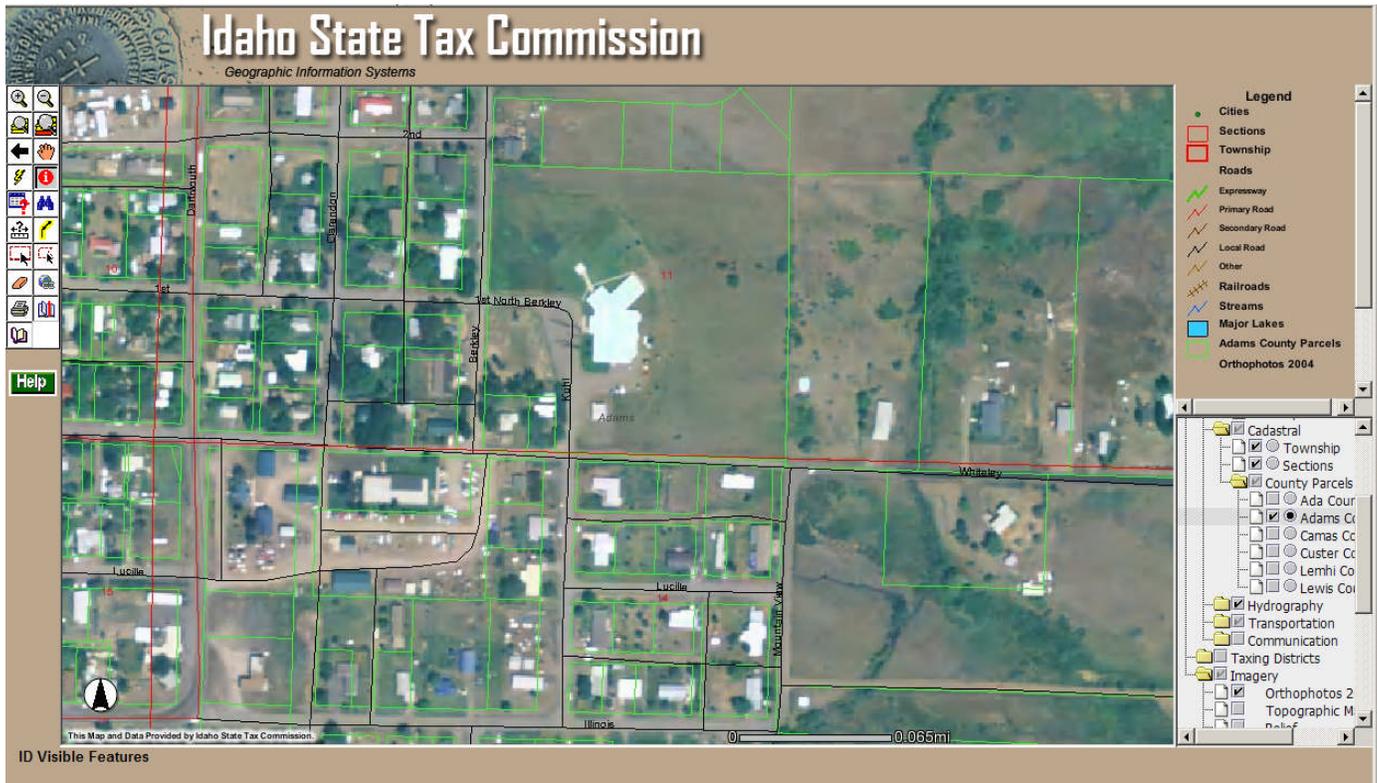
## Selected Parcel



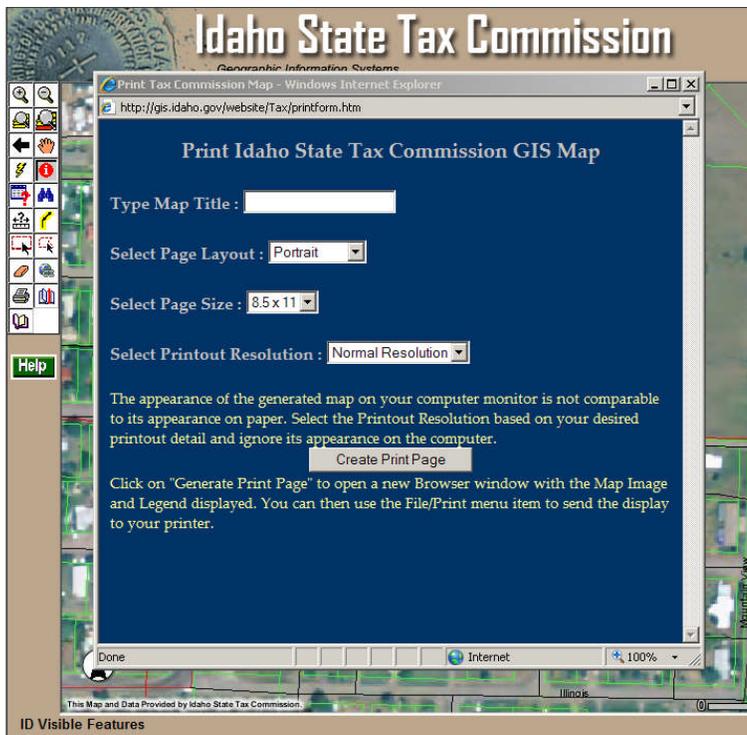
The “**Clear Selection**”  button is used to clear any selected feature or elements in the map. Once a selection has been made the user may use this button to clear features in the map and make a new selection; or continue selecting parcels as they have previously.



The **“Print”**  button allows the user to print a map with a custom template. In the example below the user has zoomed in on an area of interest they wish to print.



When user clicks on the **“Print”**  button the following dialog box displays. The user can then fill in a title and produce a custom map.

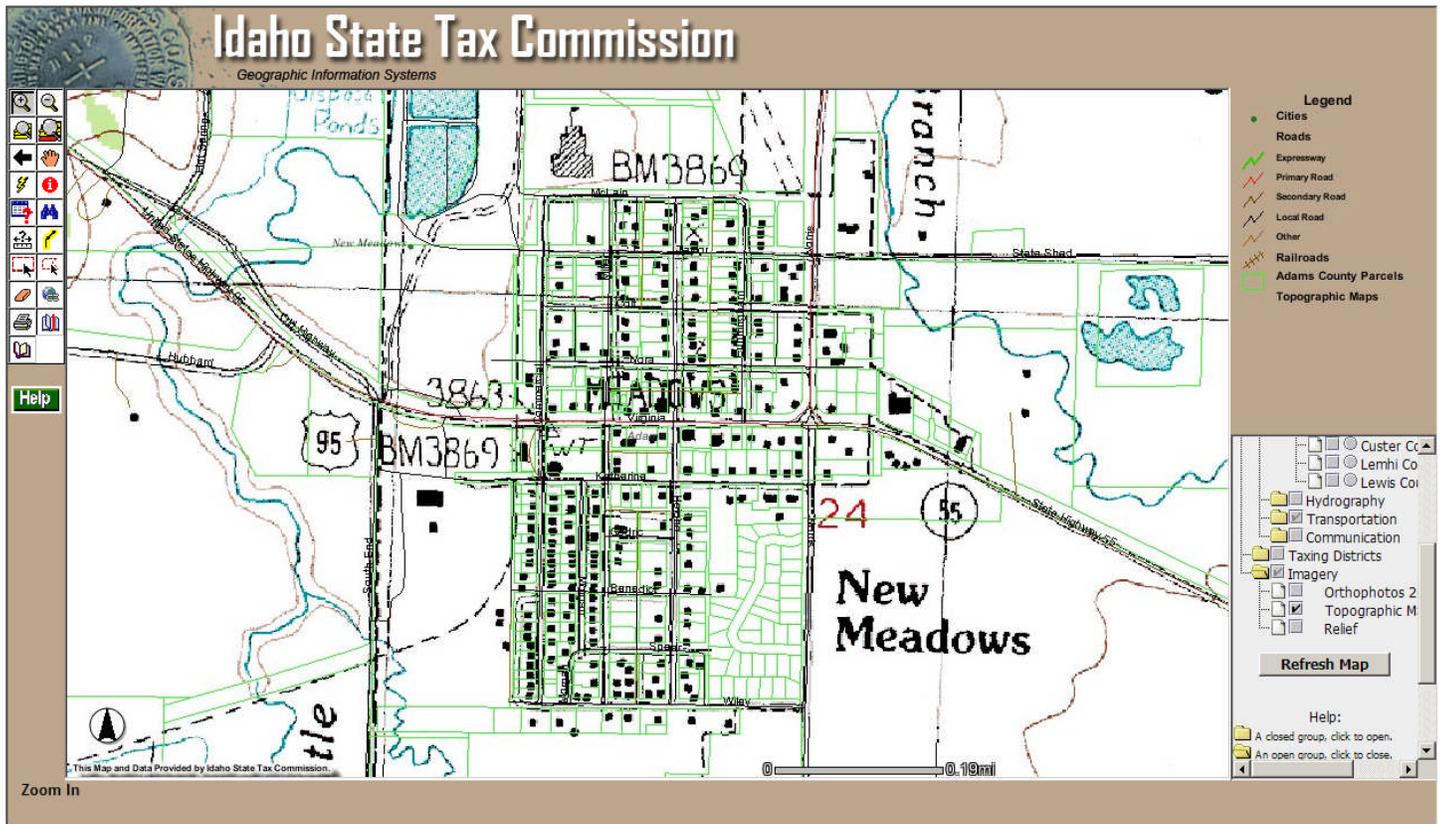


In this example the user will enter "SUBJECT PROPERTY" in the **Type Map Title :**  dialog box and "click" the . The following map is generated with a custom layout.

This map can then be printed.



The “Set Bookmark”  is used to save various map extents or views the user may need to refer to in the future. In this example the user has zoomed to the town of New Meadows and turned on various layers.

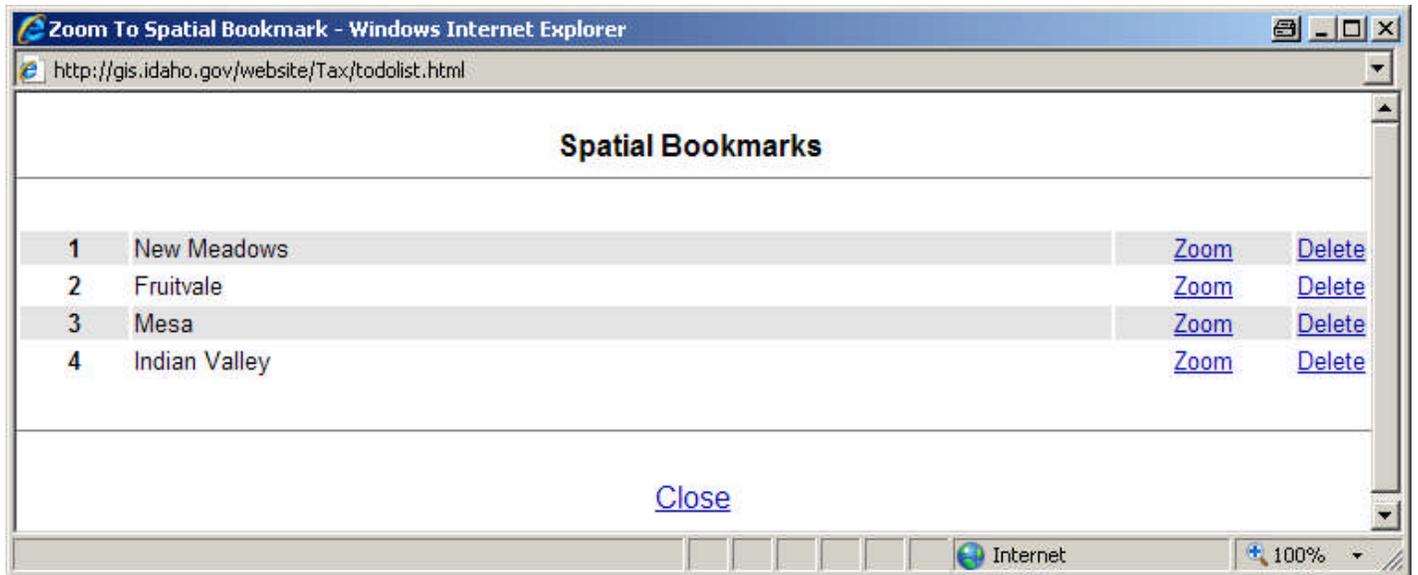


By “clicking” the “Set Bookmark”  button the user is returned the following dialog box and is given the opportunity to save this view as a bookmark with a name that has meaning to them. In this example the user saves the name as “New Meadows”.



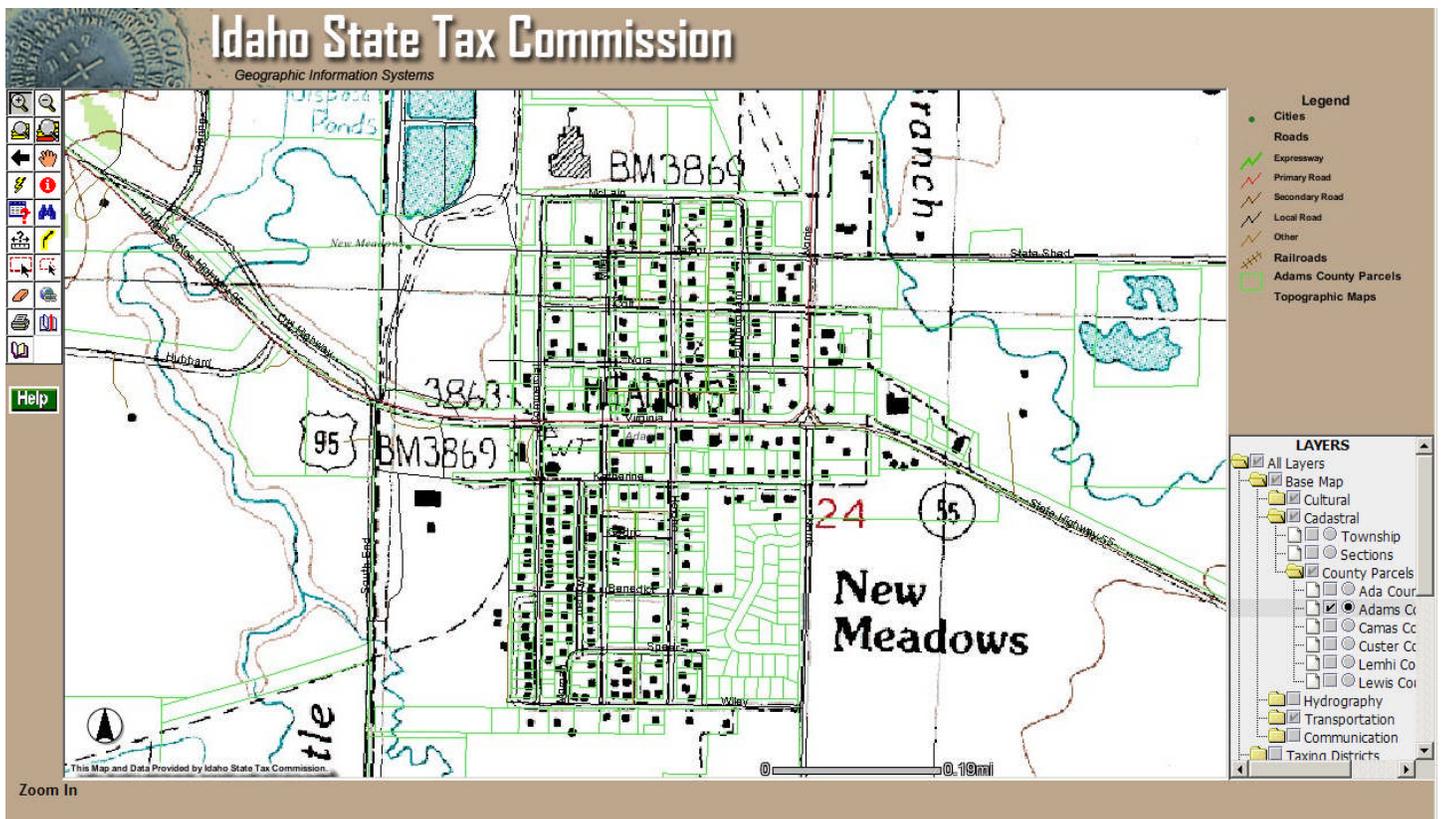
The “Zoom to Bookmark”  button allows the user to return to several map extents or views they saved previously. When the “Zoom to Bookmark”  button is “clicked” the user is returned all of the spatial bookmarks they have previously saved as shown on the following page.

## Spatial Bookmarks

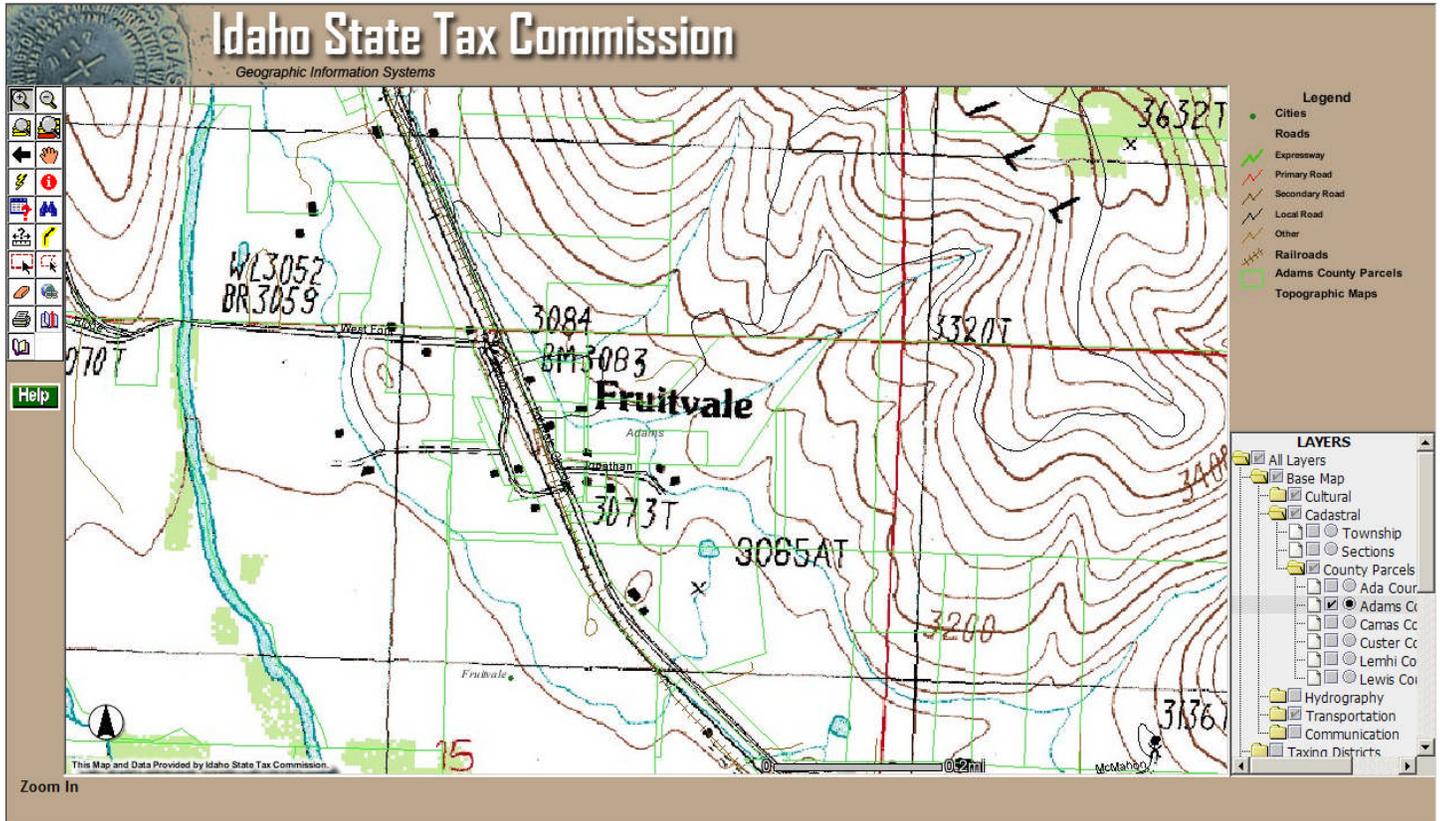


The user can at anytime return or delete bookmarks they have saved. The following are examples of the above saved bookmarks: *\*It should be noted that the bookmark retains only the mapextent; if the user turns on and off various layers, the view is affected, but not the mapextent for the bookmark.*

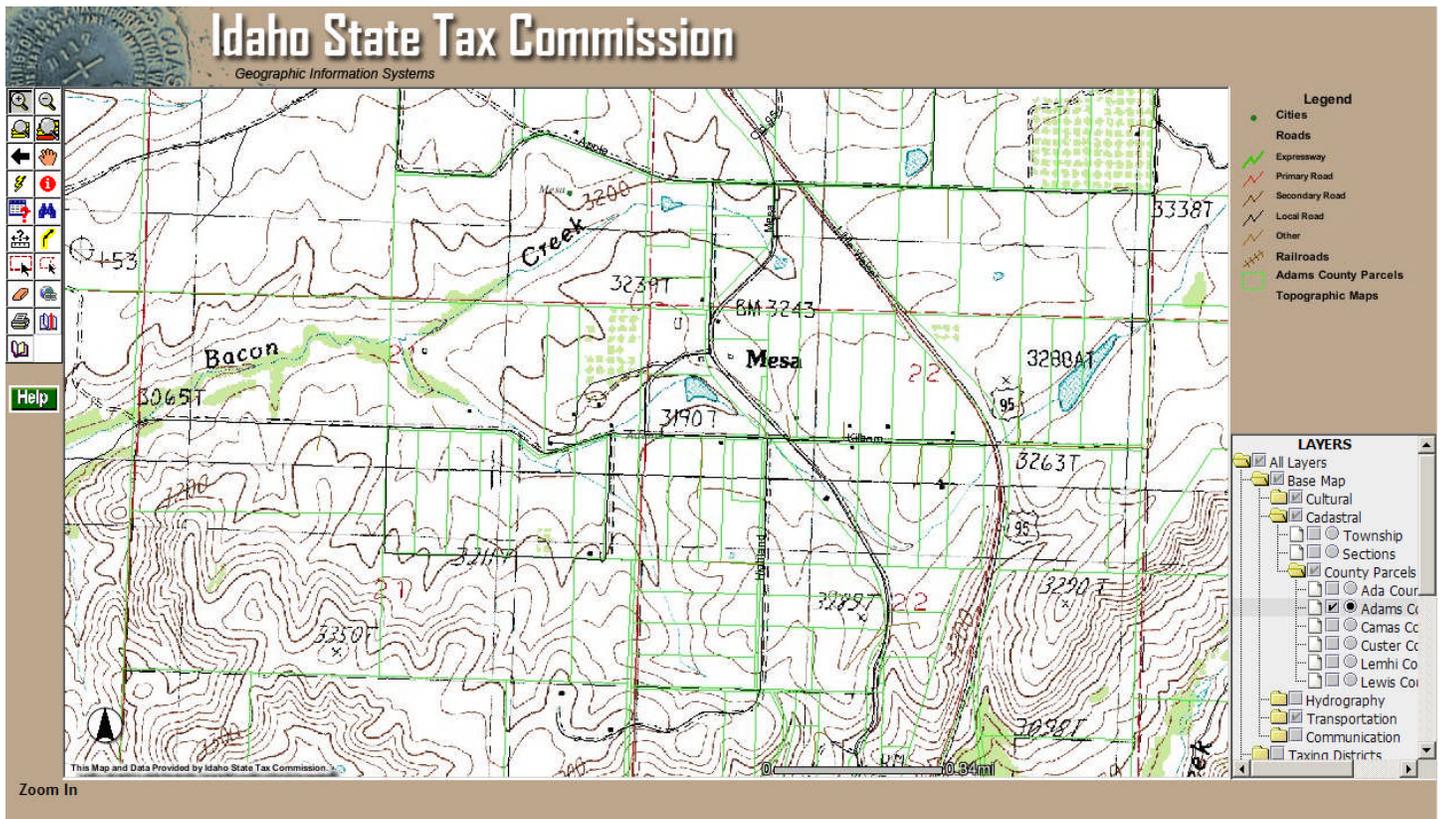
### 1 New Meadows



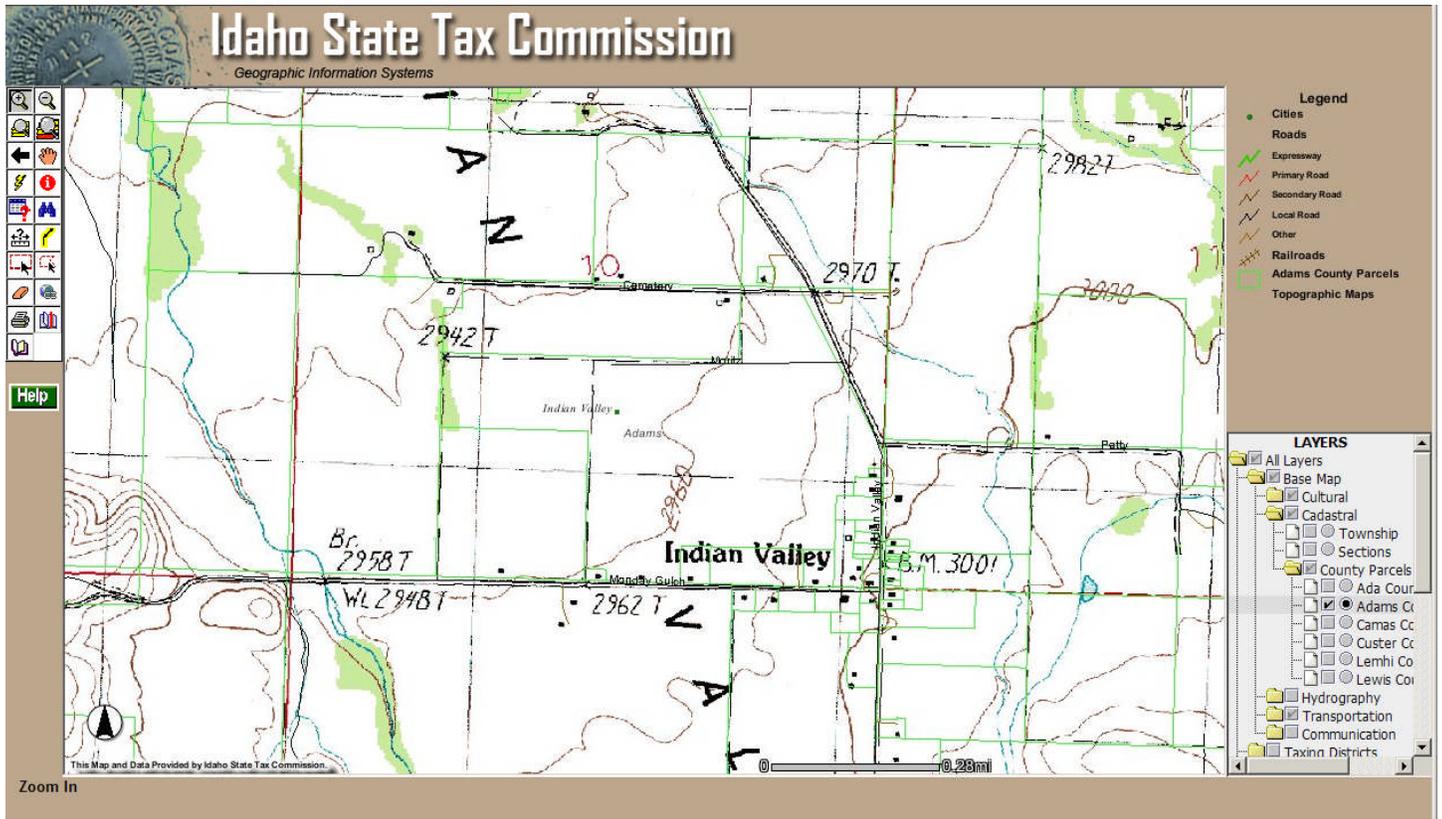
## 2 Fruitvale



## 3 Mesa



## 4 Indian Valley



### *Legend*

The web service contains a “Legend” area located in the upper right hand corner of the browser to help the user understand what layers have been activated and display in the view. The “Legend” area looks like the following:

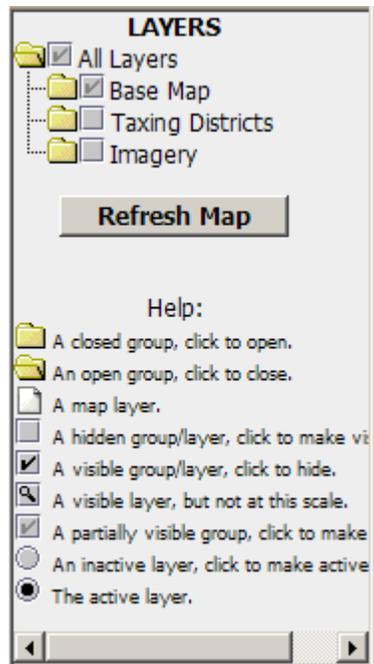


The “Legend” changes dynamically as layers are turned on and off. See the following examples:



## Layers

The web service contains a “Layers” area located in the lower right hand corner of the browser to help the user understand what layers have been activated and display in the view. The “Layers” and “Legend” areas work dynamically together. As layers are turned on and off in the view display the legend is updated. The “Layers” area looks like the following:



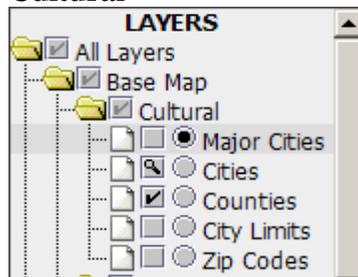
Layers are found in a typical directory/file structure and can be turned on and off. The layer must also be activated in order to perform queries or analysis on that layer. The layers are categorized into three main areas; Base Map, Taxing Districts and Imagery.

The following is a listing of layers available in each major area and the areas subdirectories:

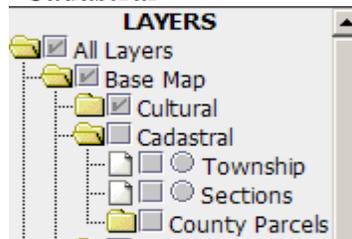
## Base Map

The Base Map area is made up of five main directories; Cultural, Cadastral, Hydrography, Transportation and Communication. Each main directory has its own sub-directories. The directory structure looks like the following:

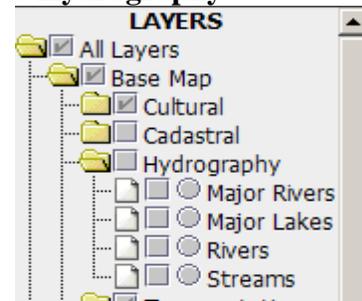
### Cultural -



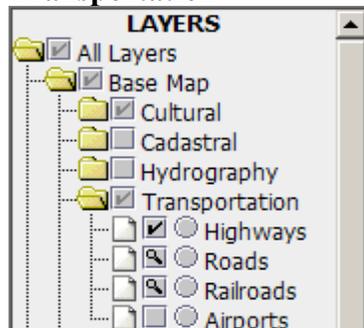
### Cadastral -



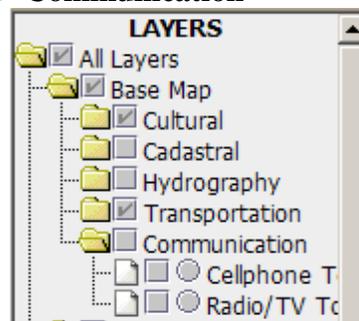
### Hydrography -



### Transportation -



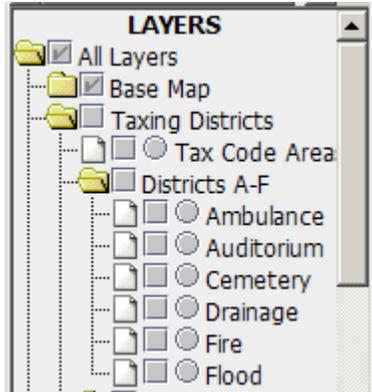
### Communication -



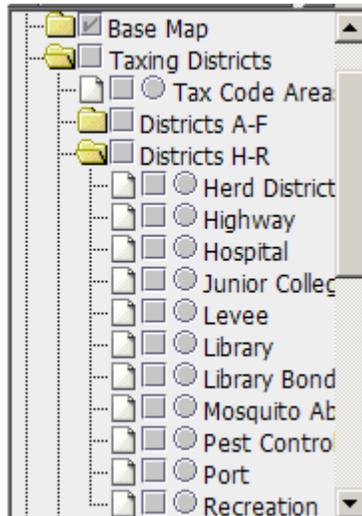
## Taxing Districts

The Taxing Districts area is made up of three main directories; Districts A-F, Districts H-R and Districts S-W, as well as a layer of Tax Code Areas. Each main directory has its own sub-directories. The directory structure looks like the following:

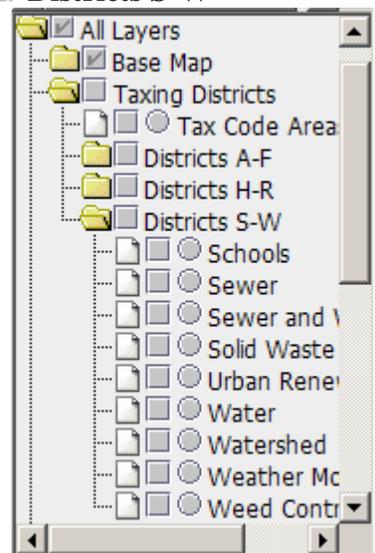
### Districts A-F -



### Districts H-R -



### Districts S-W -

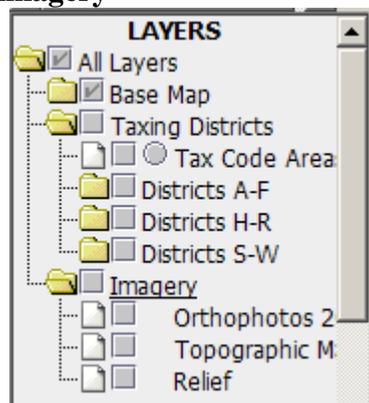


## Imagery

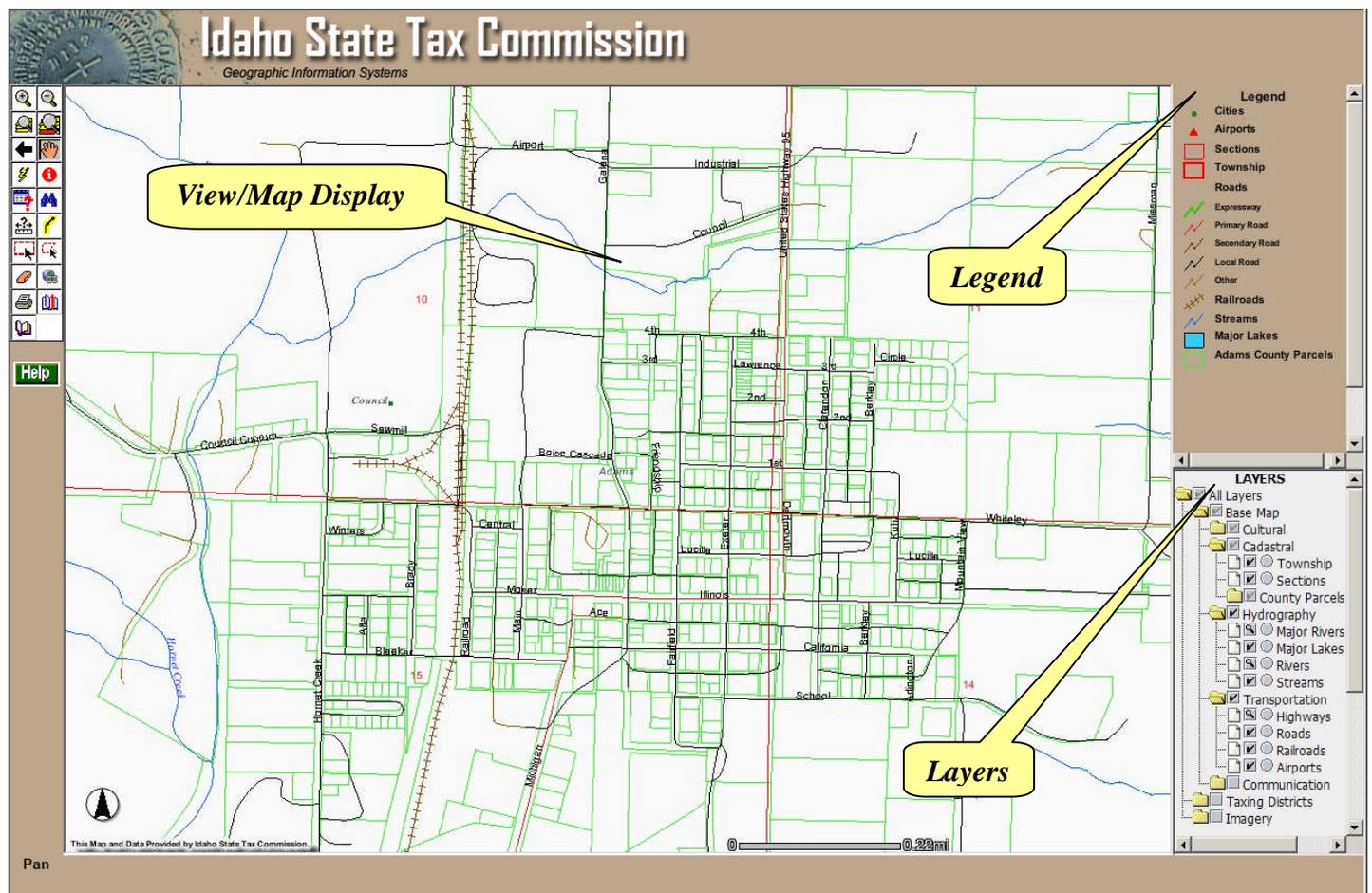
The Imagery area is made up of three sub-directories. They are Orthophotos, Topographic Maps and Relief.

The directory structure looks like the following:

### Imagery -



The following is an example of how the “View/Map Display”, “Legend” and “Layers” work together:



For comments and suggestions, contact us at:

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